

University of California Medical School  
OCT 20 1919

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# CALIFORNIA STATE BOARD OF HEALTH MONTHLY BULLETIN



THE LITTLE KNITTER

FIVE YEARS OLD—SHE DOES HER BIT

## CHILDREN'S YEAR BULLETIN

**JUNE, 1918**

# California State Board of Health

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# CALIFORNIA STATE BOARD OF HEALTH

## MONTHLY BULLETIN

Vol. 13

JUNE, 1918

No. 12

### TABLE OF CONTENTS.

	PAGE
EDITORIALS—The Menace of Whooping Cough—More Recent Uses for Birth Records—Tuberculosis Infection During Childhood—If Babies Could Travel Alone—State Institutions Save Wheat Flour-----	497
NATIONAL CHILDREN'S YEAR PROGRAM-----	499
THE WORK OF THE CALIFORNIA STATE BOARD OF HEALTH-----	500
THE DRAFT HEALTH SCORE—A CHALLENGE TO MOTHERS, by Adelaide Brown, M.D., San Francisco, Member California State Board of Health, Chairman Children's Year Committee of the State Council of Defense-----	505
THE VALUE OF BIRTH REGISTRATION TO THE CALIFORNIA CHILD, by George D. Leslie, Sacramento, State Registrar-----	506
INFANT MORTALITY RATES FOR VARIOUS STATES-----	508
INFANT MORTALITY RATES FOR CALIFORNIA CITIES AND COUNTIES-----	509
CALIFORNIA BIRTH TOTALS, by George D. Leslie, State Registrar-----	511
CHILDREN'S YEAR STANDARDIZED MEDICAL EXAMINATION, by Langley Porter, M.D., San Francisco-----	512
THE TEETH OF THE CHILD UNDER SIX—THE MOTHER'S DUTY, by M. Evangeline Jordan, D.D.S., Los Angeles-----	514
THE CHILDREN'S HEALTH CENTER, by Mrs. Alfred McLaughlin, Chairman Baby Hygiene Committee Association of Collegiate Alumnæ, Member Executive Committee Children's Year for California-----	517
THE BABY HOSPITAL IN ALAMEDA COUNTY, by Marian L. Stebbins-----	519
TEACHING LITTLE MOTHERS THE CARE OF BABIES IN THE COUNTY, by Mina G. Carson, Public Health Nurse, Los Angeles County-----	521
THE CHILDREN'S DIET IN WAR-TIME, by Agnes Fay Morgan, Ph.D., Department of Home Economics, University of California, Berkeley-----	522
THE CALIFORNIA PURE MILK LAW, by Mrs. C. D. Webster, Sacramento-----	526
SHOULD CHILDREN BE VACCINATED? by Wilfred H. Kellogg, M.D., Sacramento, Secretary California State Board of Health-----	528
CHILDREN'S YEAR PROGRAM AND CHILDREN'S EYES, by Edward F. Glaser, M.D., San Francisco, Member California State Board of Health-----	530
TUBERCULOSIS IN CHILDHOOD, by Philip King Brown, M.D., San Francisco, Medical Director Arequipa Sanitarium, Marin County, California-----	531
PRENATAL CARE, by Adelaide Brown, M.D., San Francisco, Member California State Board of Health-----	532
USE BARLEY—SAVE WHEAT-----	534
IMPORTANT LEGISLATION IN THE UNITED STATES AFFECTING WOMEN AND CHILDREN-----	537
MAKING OLD RECIPES INTO NEW-----	538

## TABLE OF CONTENTS—Continued.

	PAGE
MAY MEETING OF THE CALIFORNIA STATE BOARD OF HEALTH-----	540
SANITATION OF THE CAMP FREMONT DISTRICT, Report of the Bureau of Administration for April, 1918, W. H. Kellogg, M.D., Director-----	541
ROCKY MOUNTAIN SPOTTED FEVER IN PLUMAS COUNTY, Report of the Bureau of Communicable Diseases for April, 1918, Frank L. Kelly, M.D., Director -----	543
RECENT DATA REGARDING MEN EXCLUDED IN THE DRAFT, Report of the Bureau of Tuberculosis for April, 1918, E. L. M. Tate-Thompson, Director	546
VENEREAL DISEASE CONTROL PROGRESSES THROUGHOUT CALIFORNIA, Report of the Bureau of Venereal Diseases for April, 1918, Lewis Michelson, M.D., Director-----	547
BIRTHS, DEATHS AND MARRIAGES FOR MARCH, Report of the Bureau of Vital Statistics, George D. Leslie, Director-----	550
WORK IN SANITARY ENGINEERING INCREASES THROUGHOUT CALIFORNIA, Report of the Bureau of Sanitary Engineering for April, C. G. Gillespie, C.E., Director-----	552
THE SO-CALLED EGG SUBSTITUTES AND THEIR VALUES, Report of the Bureau of Foods and Drugs for April, 1918, E. J. Lea, M.S., Director-----	560
PLANS FOR INCREASING THE SUPPLY OF TRAINED NURSES, Report of the Bureau of Registration of Nurses for April, 1918, Anna C. Jammé, R.N., Director -----	568
LIST OF CITY AND COUNTY HEALTH OFFICERS-----	572

# MONTHLY BULLETIN

## CALIFORNIA STATE BOARD OF HEALTH

Devoted to the Prevention of Sickness and Death

Entered as second-class matter, August 15, 1905, at the post office at Sacramento, California, under the Act of Congress of July 16, 1894.

Sent free, on request, to any citizen of California.

WILFRED H. KELLOGG, M.D., Secretary and Executive Officer . Editor  
GUY P. JONES, Morbidity Statistician . . . . Associate Editor

### The Menace of Whooping Cough.

The dangerous nature of whooping cough is not generally recognized by the public. In Glasgow the annual mortality from whooping cough for the forty years from 1855 to 1894 was 13.5 per thousand, exceeding that of any other acute contagious disease. In California the figures for 1917 show that whooping cough stands next to the head of the list, being responsible for two hundred deaths as against 207 for diphtheria, which was the only disease that exceeded it. In the United States at large about ten thousand deaths from whooping cough occur every year, and these are mostly among very young children, because the younger the child the more dangerous the infection. Nearly one-third of all babies contracting whooping cough under one year of age died as a result, and 90 per cent of the fatal cases occur in children under five years of age.

\* \* \*

### More Recent Uses for Birth Records.

Red Cross nurses awaiting embarkation at Atlantic ports, for their work of mercy in France, have sent rush requests to the home state for birth records to facilitate the issuance of passports needed to secure necessary identification as American citizens in various places to which duty may call them while abroad. Patriotic youths seeking enlistment as sailors, soldiers or aviators have had brave ambitions checked at times through difficulty in obtaining birth certificates to prove eligible age, with registration rather incomplete in past decades. Such instances show that no birth may be left unregistered, since need for the record may arise many years later, under circumstances never dreamed of as possible at the time of birth.

\* \* \*

### Tuberculosis Infection During Childhood.

It has long been known that a large percentage of post mortem examinations show evidences of old lesions of tuberculosis which have healed, showing that many more persons have the disease at some time or other during their lives than is generally recognized from the number of pronounced cases with which we are familiar. A more recent addition to our knowledge is the fact that by modern specific tests which we possess, from 70 to 80 per cent of all children are found to react positively, showing that

the infection prevails widely in some form or other among children. These facts, among other things, have given rise to the thought that tuberculosis in adults is due in most, if not all cases, to infections received in early childhood. It is therefore more than ever incumbent upon us to guard and protect children against infection with this dread disease. Precautions which are within our power to invoke are the insurance of a safe milk supply for children, either in the form of certified milk from tuberculin tested cows or by pasteurization. Children should also be protected from close association with adults who have tuberculosis and those adults who are necessarily in intimate contact with children, such as parents, should be made to realize the absolute necessity of observing all ordinary precautions against spreading infection.

\* \* \*

**If Babies Could Travel Alone.**

In 1911, the California State Board of Health called attention to the remarkably low infant mortality rate in California, as compared with the rates for Eastern states. It was shown that if babies in Eastern states were sent to California during the summer months, it would mean the saving of many lives. The 1917 California infant mortality rate was considerably lower than the rate for 1911, making the statement even more effective today than it was seven years ago. The statement reads:

"The great transportation companies generously carry children under five years of age free of charge. If these eligible babies could but travel alone, what an exodus to California the Eastern states would see during the summer months. The Pacific coast has been advertised as a winter resort, and tourists have come by thousands; it has been advertised as a farming paradise, and the settlers have poured through our mountain passes in a steady stream; it has been advertised for the ninety and nine other great types of resources which attract the people of the world; but never has it been properly advertised as a summer resort for babies. An annual round-trip fare to California is considerable, of course, but as balanced against a baby's life it is small. The other expenses in selecting a summering place for the small family are not any greater here than in the East. As a factor in the reduction of infant mortality for the United States, California should play an important part."

\* \* \*

**State Institutions Save Wheat Flour.**

State institutions in California are in active co-operation with the United States Food Administration in the enforcement of food conserving regulations. All of the state hospitals, reform schools and prisons report regularly to Prof. M. E. Jaffa, Consulting Nutrition Expert of the California State Board of Health, giving an outline of the use of wheat substitutes, showing the methods used in the conservation of foods within the institution. As an illustration of this, the work of the staff of the Whittier State School may be mentioned. An accurate daily record is kept, in tabular form, of the amounts of wheat, rye, barley, rice flour and corn meal used in the institution. This record shows that during one week, recently,  $613\frac{1}{2}$  pounds of substitutes were used to 389 pounds of white wheat flour. This saving of wheat flour is most commendable and the systematic and original method of keeping the records is of great value to the boys in the school who are learning the baker's trade.

## CALIFORNIA'S PART IN THE NATIONAL CHILDREN'S YEAR PROGRAM.

The Children's Year Committee under the California Women's Committee of the Councils of National and State Defense, has now entered vigorously upon the California campaign for saving the state's share of the 100,000 children's lives which must be saved in the United States this year. This committee is composed of Dr. Adelaide Brown, member of the State Board of Health, Chairman, Mrs. Alfred McLaughlin, Dr. Louise B. Deal and Mrs. Edward F. Glaser, Treasurer. The headquarters of the Children's Year Committee are at the Children's Health Center, 323 Haight street, San Francisco. Following is the California program as prepared by the Committee:

### NATIONAL CHILDREN'S YEAR PROGRAM.

#### ADAPTED TO CALIFORNIA'S NEEDS.

Endorsed by :

<b>National Endorsement:</b>	{ President Wilson American Red Cross Society National Council of Defense
<b>State Endorsement:</b>	{ California Woman's Committee of Councils of National and State Defense State Board of Control California State Medical Society California State Board of Health

A program of nation-wide application for Children's Year has been issued by the Children's Bureau, Department of Labor, Washington.

The application of this program to California has been made by the Children's Year Committee of the Woman's Committee of the State Council of Defense. Many points in the National Program are covered in California by legislative measures and by active agencies in the field, and a co-operative spirit is established with these agencies, *i. e.*, Child Labor and Juvenile Protective, Juvenile Court, Mental Hygiene, Recreation and the Mother's Pension Work.

#### The California State Program will be as follows:

- (1) A year's campaign on better birth registration.
- (2) The more intelligent use of our clean milk law.
- (3) The establishment of Children's Health Centers—
  - (a) In Medical Clinics, centers at schools or churches, in as many communities as possible. Three times during the year in June, November and March, these centers will be used for a drive on measuring all California Children under six. A physical standard is to be developed by the Children's Bureau, and the "Weighing and Measuring Drive" is National and not State work. Throughout the year these Children's Health Centers will be open for conferences.
  - (b) Individual doctors are to be enrolled to give Free Health Conferences in their own offices as a weekly service to children throughout the year. This plan will reach parts of the State where no organized clinics exist.
- (4) The ideal for each county to work for will be a permanent Community Public Health Nurse and a Children's Health Center, as the result of Children's Year work.
- (5) The necessity of better pre-natal guidance will be brought to the mothers of the State by the distribution from the Children's Year Headquarters, 323 Haight Street, San Francisco, to all women enrolling, a series of nine pre-natal letters which have been used in Kansas and Massachusetts.
- (6) Throughout the year we hope to gather data which will help in an understanding of the relation between the family budget and good health in our state.

The lesson of the result of physical examination for the draft, and the elimination of thirty-five per cent of our men from twenty-one to thirty-one years of age, must come home to every mother. Many of these physical defects began in young childhood, and by better care could have been prevented.

The National Program for Children's Year has the slogan "Save 100,000 Babies." The pre-school age is emphasized as the age to be helped. For California this means the saving of 1,822 lives and the extension of the ideals of the value and welfare of child life throughout the State.

Each county, under its Chairman of the Woman's Committee of the Council of Defense, has appointed a Children's Year Committee (absorbing into this Committee—Public Health and Child Welfare Committees previously appointed), and the county program will cover 1, 2, 3 and 4 of this program.

Numbers 5 and 6 will be arranged for by the central office in co-operation with the county committees and state agencies.

Remember that no program can be made valuable unless each integral part works hard, enthusiastically and steadily.

The co-operation of every mother in California is needed to save and keep well our babies.

Doctors, nurses and committees can help, but the mother is the chief worker.

CHILDREN'S YEAR COMMITTEE FOR CALIFORNIA.

## THE WORK OF THE CALIFORNIA STATE BOARD OF HEALTH.

### WHAT THE BOARD OFFERS TO PHYSICIANS.

#### Laboratory Facilities.

*Wassermann reactions* for syphilis will be performed for any physician in California free of charge in the Hygienic Laboratory of the Bureau of Communicable Diseases, Berkeley.

*Biological examinations for anthrax, diphtheria, dysentery, gonococcus infections, malaria, pneumonia (type), tuberculosis (sputum examinations) and typhoid (Widal tests)* will be made in the main laboratory at Berkeley, in the Northern Branch Laboratory, 400 Capital Bank Building, Sacramento, and in the Southern Branch Laboratory, Union League Building, Los Angeles, free of charge, for any physician in the state, with the exception of those in cities having populations of 25,000 and over.

*Examinations for Typhoid Carriers.* Special examinations for the detection of typhoid carriers will be undertaken by the bureau at all times and it is specially urged that physicians send to the Hygienic Laboratory stool specimens from all convalescent typhoid cases. This should be done so as to catch in their incipiency typhoid carriers who are the greatest source of infection.

*Mailing outfits for sending specimens* for tuberculosis, diphtheria, typhoid, malaria, pneumonia, gonococcus infection and syphilis infections will be sent upon request. The bureau has established in the drug stores of many towns of the state stations for the distribution of these mailing outfits. These outfits only must be used for sending specimens to the Bureau of Communicable Disease, Berkeley, to the Southern Branch Laboratory, Union League Building, Los Angeles, or the Northern Branch Laboratory, Capital National Bank Building, Sacramento.

#### State District Health Officers.

The services of the six state district health officers are available for assistance in the control of outbreaks of communicable disease and for

supplementing the work of the board's bureaus. These six district health officers may be addressed as follows:

**North Coast District, Dr. Allen F. Gillihan, 622 Cherry st., Santa Rosa.**

**Northern District, Harold F. Gray, Gr.P.H., Box 532, City Hall, Chico.**

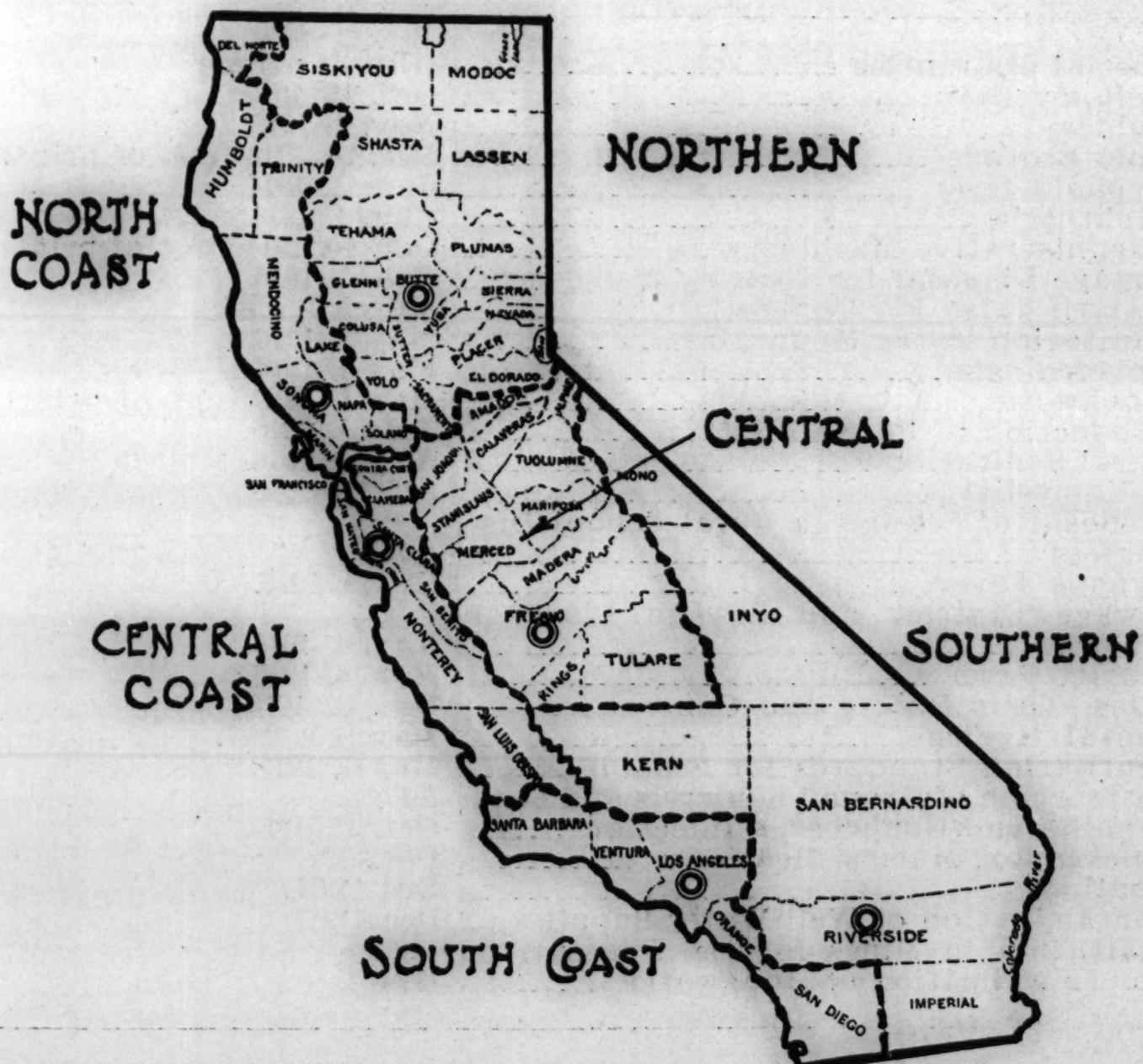
**Central Coast District, Robert N. Hoyt, B.S., City Hall, San Jose.**

**Central District, Dr. Ralph W. Nauss, City Hall, Fresno.**

**South Coast District, Edw. A. Ingham, 210 Union League Bldg., Los Angeles.**

**Southern District, Dr. G. J. Telfer, Court House, Riverside.**

# STATE HEALTH DISTRICTS



◎ • HEADQUARTERS • OF • STATE • DISTRICT • HEALTH • OFFICER •

**Publications.**

*Special regulations* for the control of the various communicable diseases have been adopted by the California State Board of Health. Copies of these regulations may be obtained from the secretary of the board, Sacramento, without cost. These include regulations for the control of diphtheria (Bull. No. 5), typhoid fever (Bull. No. 6), malaria (Bull. No. 9), tuberculosis (Bull. No. 11), hookworm (Bull. No. 12), poliomyelitis (Bull. No. 15), typhus fever (Bull. No. 17), scarlet fever (Bull. No. 19), syphilis and gonococcus infections (Bull. No. 24), chickenpox, mumps, measles, German measles, whooping cough, epidemic cerebrospinal meningitis, and acute lobar pneumonia (Bull. No. 25), and smallpox (Bull. No. 26).

**THE BOARD issues a monthly bulletin which will be MAILED WITHOUT COST TO ANY PRACTITIONER OR CITIZEN OF CALIFORNIA.**

Following is a list of special bulletins issued by the board, copies of which will be sent, upon request:

*Special Bulletins of the State Board of Health.*

No.	Title	Date issued
1	Special Guaranties -----	(Out of print.)
2	Poliomyelitis -----	Oct. 15, 1912.
3	Rabies -----	Nov. 1, 1913.
4	Cold Storage -----	Dec. 26, 1913 (out of print).
5	Typhoid fever -----	June 1, 1914.
6	Diphtheria -----	Aug. 1, 1914.
7	Administrative Machinery -----	Oct. 10, 1914 (out of print).
8	Sewage Disposal for Isolated Residences -----	Feb. 1, 1916.
9	Malaria (also Fly Control) -----	March 1, 1916.
10	Sanitation in the Mountains -----	May 1, 1916.
11	Tuberculosis -----	May 1, 1916.
12	Hookworm -----	May 1, 1916 (out of print).
13	Production of Pure Milk -----	July 1, 1916.
14	Rural Sanitation -----	Aug. 1, 1916.
15	Poliomyelitis -----	Aug. 5, 1916.
16	Disposal of Sewage in Rural School Districts -----	1916.
17	Typhus Fever -----	Oct. 4, 1916.
18	Sewage Systems and Sewage Disposal Works -----	Nov. 4, 1916.
19	Scarlet Fever -----	Nov. 4, 1916.
20	Flies—Their Habits and Control -----	Dec. 15, 1916
21	Dental Hygiene -----	March 1, 1917.
22	Ventilation Standards for Schools -----	May 1, 1917.
23	Destruction of Ground Squirrels and Rats -----	1917.
24	Syphilis and Gonococcus Infection -----	Oct. 15, 1917.
25	Chickenpox, Mumps, Measles, etc. -----	Dec., 1917.
26	Smallpox -----	Dec., 1917.
27	Contamination of Well Water Supplies -----	Dec., 1917.
28	Sanitation in Mines for the Prevention and Eradication of Hookworm -----	1918.

## WHAT THE BOARD REQUIRES.

## Reportable Diseases.

The law requires the prompt reporting of the following diseases to the local health officer, whose duty it is to report weekly to the State Board of Health:

Anthrax	Hookworm	Rabies
Beri-beri	LEPROSY	Rocky Mountain Spotted Fever
<b>CEREBROSPINAL MENINGITIS</b> (epidemic)	Malaria	<b>SCARLET FEVER</b>
Chickenpox	Measles	<b>SMALLPOX</b>
<b>CHOLERA, ASIATIC</b>	Mumps	Syphilis
Dengue	Ophthalmia Neonatorum	<b>TYPHUS FEVER</b>
<b>DIPHTHERIA</b>	Paratyphoid Fever	Trachoma
Dysentery	Pellagra	Tuberculosis
Erysipelas	Tetanus	Typhoid Fever
German Measles	<b>PLAGUE</b>	Whooping Cough
Glanders	Pneumonia (Lobar)	<b>YELLOW FEVER</b>
Gonococcus Infection	<b>POLIOMYELITIS</b>	

Diseases in capitals are quarantinable.

*The Law.* "By section 2979a, Political Code, it is made the duty of every attending or consulting physician, nurse, or other person, having charge of or caring for any person afflicted with any of said contagious diseases, to report at once in writing to the local health officer," etc.

"Section 16 of the Public Health Act requires that 'physicians,' etc., shall 'promptly report' such communicable diseases to the local health officers.

*Penalties:* The penalty provided under the Public Health Act last referred to, for a violation of any of its provisions, is that the person so violating "shall be guilty of a misdemeanor and upon conviction shall be punished by a fine of not less than twenty-five dollars and not more than five hundred dollars, or by imprisonment for a term of not more than ninety days, or by both such fine and imprisonment."

Penal Code, section 378, provides that "every person charged with the performance of any duty under the laws of this state relating to the preservation of public health, who wilfully refuses or neglects to perform same, is guilty of a misdemeanor."

Penal Code, section 19, provides that the punishment for a misdemeanor is imprisonment in the county jail not to exceed six months, or a fine not exceeding five hundred dollars, or both."

*Venereal diseases* are not only reportable by number, but the regulations now require every physician who is consulted by a new patient to ascertain from him whether he has been previously treated by any one else. The physician is then required to notify the former physician on a form card furnished by the department that he is now in attendance. If the patient under treatment does not report to his physician for a period of two weeks after the time expected, the physician is then required to report the name and address of the patient to the State Board of Health. This regulation is to insure the continued treatment of venereal disease cases until they are no longer a menace to society. As provided in section 2979 of the Political Code, the California State Board of Health has appointed local health officers as inspectors of the board with full power to quarantine venereal and other diseases.

*Special Regulations for the Prevention and Control of Communicable Diseases* have been adopted by the board, copies of which, as listed above, may be obtained, upon request.

#### BIRTH REGISTRATION.

Attention is called particularly to the law requiring prompt filing of birth certificates. Delay in naming the child is no excuse, as provision is made for a supplementary report. The State Board of Health intend that California shall attain and keep her place in the registration area for births, even if it is necessary to invoke the harsh measures provided by law.

#### LOCAL HEALTH DISTRICTS.

Attention is directed to the facilities now existing under a recent state law for the formation of local health districts. The object of this plan is to enable rural communities to combine, forming a health district, and therefore, to secure the services of a full-time health officer and even a full health organization at the same per capita expenditure that is now possible only for the larger cities. Information concerning this health district plan will be gladly furnished upon request to the Secretary of the State Board of Health.

#### DIVISIONS OF THE BOARD'S WORK.

The board maintains the following seven bureaus in addition to the executive office, Bureau of Administration, Sacramento:

Bureau of Communicable Diseases (including State Hygienic Laboratory), Frank L. Kelly, M.D., Acting Director, Berkeley.

Bureau of Tuberculosis, E. L. M. Tate-Thompson, Director, Sacramento.

Bureau of Venereal Diseases, Lewis Michelson, M.D., Director, Underwood Bldg., San Francisco.

Bureau of Vital Statistics, George D. Leslie, Director, Sacramento.

Bureau of Sanitary Engineering, C. G. Gillespie, Director, Berkeley.

Bureau of Foods and Drugs, E. J. Lea, M.S., Director, Berkeley.

Bureau of Registration of Nurses, Anna C. Jammé, Director, Sacramento.

All communications relative to the state health laws and their enforcement, requests for information regarding public health work in California, and all similar inquiries should be addressed to the Secretary, California State Board of Health, Sacramento.

## THE DRAFT HEALTH SCORE—A CHALLENGE TO MOTHERS

By ADELAIDE BROWN, M.D., San Francisco, Chairman Children's Year Committee,  
Member California State Board of Health.

TABLE No. 1.

*Results of Physical Examination of Men in First Draft, National Army.*

	Men, 21-31 years of age
Called -----	3,082,946
Examined -----	2,510,706
Rejected -----	730,756
Rejected on first examination -----	30 per cent
Rejected on reexamination -----	5 per cent
Total -----	35 per cent

This means that 35 per cent of our young men were physically inefficient. Do you know how these figures compare with American school children under fifteen years of age?

TABLE No. 2.

*Comparison of Relative Number of Physical Defectives in Men of First Draft,  
American and California Rural School Children.*

	First draft (8,900 Cali- fornia men), per cent	American schools, per cent	Four Cali- fornia counties, per cent
Teeth -----	6.0	30.0-50.0	45.0
Tonsils and adenoids -----	10.7	18.0-35.0	32.0
Hearing -----	1.0	2.0- 5.0	4.0
Eyes -----	6.0	28.0	9.0

The teeth standard of the draft is two pairs of opposing chewing teeth. Molars and bicuspids are counted as "chewers." That is, out of twenty teeth, if four opposites are left, the man passes. The children's test of teeth means visible decay or infected gums. All abnormalities are included.

Under the classification of defective adenoids and tonsils found in the draft, are included stunted growth, glandular disease and heart troubles, as tonsils and adenoids are the portals for the entrance of general infection.

Thus we have a total of 17.7 per cent of the discards in whom present defects may be traced back to the defects of childhood. How common these defects are in childhood the other columns show.

The California counties given are typical rural counties not including any large centers of population. This lesson means that every mother in our state must be more intelligent and more careful about the general health of her child, its growth and development, as well as giving it care when sick. A test of our nation has been made. Let us as women, the mothers of California, take up the challenge and be ready to stand by everything which looks to a healthier citizenship, so that in sending forth sons and daughters to the service of the nation in war or peace no such percentage of discards shall be found again.

## THE VALUE OF BIRTH REGISTRATION TO THE CALIFORNIA CHILD.

By GEORGE D. LESLIE, State Registrar.

Birth registration is indeed a birthright of great value throughout all stages of life from infancy to full maturity. The prompt filing of a birth certificate must never be neglected, lest for lack of a record the child suffers loss or serious inconvenience whether in early years or as man or woman grown.

The California blank includes inquiries on the use of a prophylactic for ophthalmia neonatorum. Any physician, midwife or other attendant who might neglect birth registration through indifference, ignorance or carelessness would be apt for similar reasons to omit the simple precaution of protecting the newborn babe against possible blindness. Hence birth registration requirements aid directly in this matter of due precautions at birth and thus tend to insure each child a fair start in life.

The study of infantile deaths, past and present, helps to reduce infant mortality in the future. Since the more complete is the registration the more accurate are the figures, it follows that the more fully births are registered the greater will be the help afforded by statistics in reducing to a minimum the deaths among babies.

While infant welfare workers do not delay kind visitations until birth certificates are filed but even give prenatal advice and assistance, yet immediate birth registration facilitates greatly the nobly humanitarian work of aiding mothers of limited means in rearing offspring through various perils of infancy.

### Needs for Birth Records.

Need for a birth record arises from time to time during childhood and youth. In case the family move to another state, reference may have to be made to the birth certificate in California to secure admission to school privileges under the laws of the state which has become the new home. When visiting a parental home in a foreign country, as happened in certain cases in early stages of the present European war, a child born in California may suffer detention as an alleged native of the foreign country where found unless legal proof is available that the birth actually occurred here.

Where the father of a child born in California has subsequently moved to Canada and enlisted there for service overseas, the amount of the allowance granted the mother is affected by her ability to prove from a birth registration record the date of birth for any such child. Similarly, in the administration of widow's pension laws in our own country, legal proof of the dates of birth of dependent children will facilitate the making of awards for the support of the widowed mother and helpless orphans.

### Birth Registration and Child Labor.

Birth registration aids the enforcement of truancy laws in securing the proper amount of schooling for growing children. Birth records help with child labor laws also, both as to the community in preventing

work by children too young and as to ambitious youth in securing full privileges from legal proof of date of birth.

The European war has emphasized particularly the great value of birth records. In the early period, persons born here but living abroad were liable to conscription under a foreign flag unless able to furnish proof of having been born here, so that American Consuls sent cablegrams for birth data not always obtainable from scant early records for natives of California domiciled in England or France. Similarly, a Californian established in business in Belgium suffered the loss of his possessions, confiscated as enemy property, through inability to prevent the Hunnish devastation by furnishing immediate proof of his American birth.

#### The War and Birth Registration.

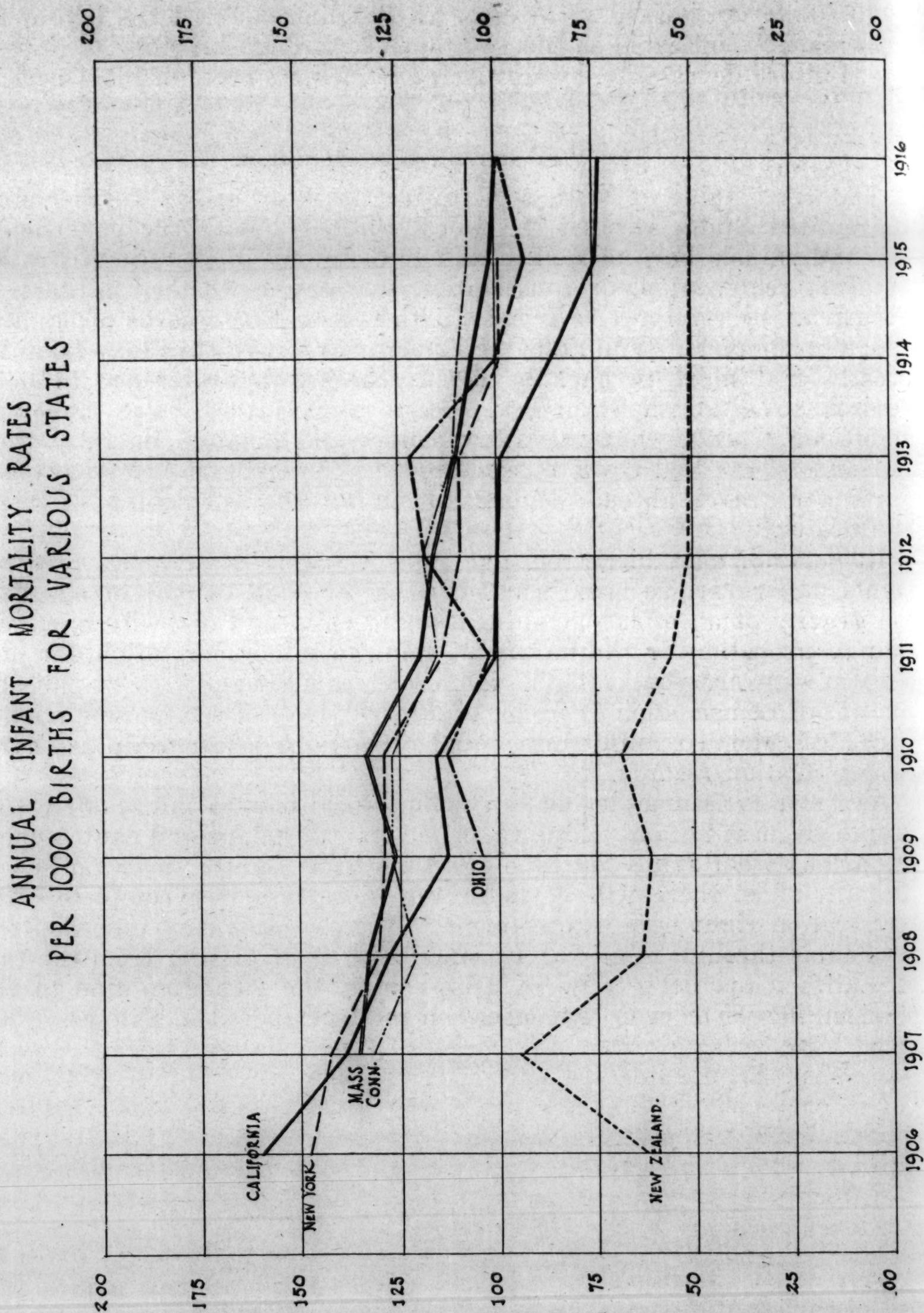
The great value of birth registration has been shown further since the United States entered the world conflict. Both the government and individuals have needed to fix age definitely in the administration of draft registration, or conscription for service whether military or industrial, by reference to former birth registration records often, alas, rather incomplete. Voluntary enlistments by brave boys may be aided greatly and must perhaps be counterchecked by reference to birth records to establish eligibility. Birth registration helps not only ambitiously brave young soldiers, sailors and aviators but also their fair sisters, the Red Cross nurses, since the issuance of necessary passports for travel abroad depends often on the furnishing of birth certificates.

In general, also, birth registration is valuable in securing personal rights under various laws, whether penal or civil. Proof of age fixes the gravity of an offense against a young child and also affects admission to probation or the nature of punishment or correction for acts done in wayward youth. Civil rights, such as marriage without parental consent or transmission of property left by deceased relatives or friends may also depend upon definite proof of birth or relationship as shown by registration records.

As America assumes leadership among world powers and as our young people go forth not only from the home state to camps and cantonments in various other states but even from the home country over the sea to foreign lands, there will be more and more need for complete birth registration right here in California. Birth records may indeed prove invaluable through family and property interests arising from the fact of Californians being now in camps from the Canadian line to the Mexican border or even in trenches on the battle front in France.

## INFANT MORTALITY RATES IN VARIOUS STATES.

The chart published on the opposite page shows the remarkable decrease in the infant mortality rates in California since 1906. The California rate is one of the lowest, if not the very lowest, rate for any state in the union. Unfortunately, data for the ten year period covered by this chart is lacking in many states. The enforcement of



the excellent California milk law, together with the rigid supervision of milk supplies as maintained by many cities of California should reduce our infant mortality rate still lower. In order to accomplish this, however, it is necessary that more intensive work along all lines for the promotion of infant welfare be undertaken. The establishment of children's health centers, the systematic establishment of thorough health inspection of school children and the many other factors as presented in this bulletin, should all be adopted. California should be able to have as low an infant mortality rate as New Zealand, and if every available effort were undertaken to lower our rate, we should be able to surpass the enviable record of New Zealand.

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#### CALIFORNIA CITY AND COUNTY INFANT MORTALITY RATES.

George D. Leslie, State Register, has prepared the following tables as showing the comparative infant mortality rates for the larger cities and for all the counties of California. The contrast in the rates for these various units are very striking. The highest infant mortality rates for California counties are in those lying in the southern San Joaquin Valley region and in the extreme southeastern part of the state. Two or three counties in the extreme northern part of the state also have very high rates, as well as one of the south coast counties. One reason for the high rates in counties of southern California is because of the large Mexican population. It is probable that the presence of large numbers of foreigners, who are more or less ignorant, has considerable to do with the high rates in other counties. Nevertheless, there are local conditions in all of these counties which need correction, and these high rates in all cases are not due to the presence of ignorant foreigners, but are due, to a certain extent, to carelessness, indifference and ignorance of parents who must be educated.

Along with the infant mortality rates for these counties, Mr. Leslie has prepared a column of figures showing the distribution of the 1,822 children's lives to be saved this year. This distribution is based upon the 1917 birth total. Reference to this column will show the exact number of children's lives that must be saved in each county in California, if the state is to do its part in the national program for saving 100,000 children's lives this year.

In the table showing the infant mortality rates for California cities in 1917, it should be noted that several of the cities of northern California have extremely low rates. Several cities in southern California also have very low rates, but on the other hand several cities of the southern San Joaquin Valley and in the southeastern part of the state have extremely high rates. Many cities scattered throughout California have very much higher rates than there is any excuse for. Conditions should be corrected, and they must be changed at once if California is to perform its share in saving the lives of these 100,000 children throughout the United States.

*Infant Mortality Rates, for Counties: 1917.*

County	Total live births	Deaths at all ages	Deaths under 1 year	Infant mortality rate per 1,000 births	Distribution of 1,822 lives to be saved in proportion to 1917 birth total
California	52,230	42,084	4,081	78	1,822
Alameda	5,205	3,794	373	72	182
Alpine	2				
Amador	140	141	12	86	5
Butte	494	415	44	89	17
Calaveras	91	100	5	55	3
Colusa	142	120	10	70	5
Contra Costa	897	454	71	79	31
Del Norte	41	28	1	24	1
El Dorado	105	127	5	48	4
Fresno	2,417	1,344	247	102	84
Glenn	168	66	7	42	6
Humboldt	580	392	51	88	20
Imperial	590	380	72	122	21
Inyo	20	54	2	100	1
Kern	958	548	73	76	33
Kings	388	253	43	111	14
Lake	85	61	6	71	3
Lassen	115	68	8	70	4
Los Angeles	12,726	10,555	889	70	444
Madera	226	114	22	97	8
Marin	234	221	19	81	8
Mariposa	32	39	1	31	1
Mendocino	354	325	19	54	12
Merced	361	182	43	119	13
Modoc	104	44	7	67	4
Mono	6	4			
Monterey	461	337	34	74	16
Napa	233	546	12	52	8
Nevada	177	205	9	51	6
Orange	1,061	652	106	100	37
Placer	354	283	20	56	12
Plumas	61	83	10	16	2
Riverside	681	582	81	119	24
Sacramento	1,783	1,419	154	86	62
San Benito	187	104	17	91	7
San Bernardino	1,313	1,274	186	142	46
San Diego	1,558	1,431	82	53	54
San Francisco	7,877	7,156	505	64	275
San Joaquin	1,293	1,378	105	81	45
San Luis Obispo	434	234	26	60	15
San Mateo	514	365	30	58	18
Santa Barbara	727	449	58	80	25
Santa Clara	1,655	1,612	135	82	58
Santa Cruz	415	352	35	84	14
Shasta	245	249	28	114	9
Sierra	30	35	4	133	1
Siskiyou	378	258	35	93	13
Solano	465	375	44	95	16
Sonoma	745	736	52	70	26
Stanislaus	719	420	52	72	25
Sutter	115	96	6	52	4
Tehama	187	165	16	86	7
Trinity	22	31			1
Tulare	1,006	538	110	109	35
Tuolumne	86	121	3	35	3
Ventura	526	345	67	127	18
Yolo	283	199	18	64	10
Yuba	158	157	11	70	6

*Infant Mortality Rates, for Cities: 1917.*

City	Total live births	Deaths at all ages	Deaths under 1 year	Infant mortality rate per 1,000 births
California	52,230	42,084	4,081	78
Cities of 5,000 in 1910	30,884	25,370	2,202	71
Northern California—				
Eureka	251	201	17	68
Napa	125	89	6	48
Petaluma	166	146	13	78
Santa Rosa	152	134	12	79
Marysville	98	121	7	71
Central California—				
San Francisco	7,877	7,156	505	64
Alameda	417	291	17	41
Berkeley	747	478	34	46
Oakland	3,512	2,197	250	71
Richmond	311	107	21	68
San Rafael	91	91	7	77
San Luis Obispo	162	103	10	62
San Jose	620	434	42	68
Santa Cruz	152	168	13	86
Fresno	887	548	107	121
Bakersfield	496	347	41	83
Sacramento	1,344	1,220	127	94
Stockton	727	901	65	89
Vallejo	247	181	19	77
Southern California—				
Los Angeles	8,264	6,717	591	72
Alhambra	112	64	5	45
Long Beach	525	514	32	61
Pasadena	611	498	20	33
Pomona	246	148	13	53
Santa Monica	180	187	14	78
Santa Ana	269	184	22	82
Riverside	282	289	27	96
Redlands	159	150	16	101
San Bernardino	375	373	55	147
San Diego	1,124	1,048	63	56
Santa Barbara	355	285	31	87
Rest of state	21,346	16,714	1,879	88

## CALIFORNIA BIRTH TOTALS.

By GEORGE D. LESLIE, State Registrar.

In California a baby is born every ten minutes. The 52,230 live births in 1917 represent a daily average of 143, or about six each hour of the whole twenty-four. Through the day and night, therefore, the busy Stork visits some California home every tenth minute.

The birth rate per 1,000 population was the same for 1917 as for 1916, 17.2, the rate for each of the last two years marking the culmination of a steady rise ever since state registration began in 1906.

However, the increase in the California birth total was only 1,592, or 3.1 per cent, for 1917 over 1916 as compared with 2,563, or 5.3 per cent, for 1916 over 1915. In fact, increases in births were shown last year by only thirty-one counties, decreases appearing for as many as twenty-seven, mostly small mountain or interior counties.

The excess of births over deaths was 10,146, or 24.1 per cent in 1917 against 10,778, or 27.0 per cent in 1916. These figures mark the climax of the excess first shown in 1911. Birth registration fell short of the

death total in earlier years, but beginning with 1911 the relative excess of births over deaths in California was 2.4, 7.1, 13.6, 22.6, 23.2, 27.0, and 24.1 (1917).

Detailed figures for the past twelve years follow:

*Birth Totals, with Increase and Rate per 1,000 Population, for California, 1906 to 1917.*

Year	births Total live	Increase		Rate per 1,000 popu- lation	Relative excess of births over deaths
		Number	Per cent		
1917	52,230	1,592	3.1	17.2	24.1
1916	50,638	2,563	5.3	17.2	27.0
1915	48,075	2,063	4.5	16.8	23.2
1914	46,012	2,160	4.9	16.7	22.6
1913	43,852	4,522	11.5	16.4	13.6
1912	39,330	4,502	12.9	15.2	7.1
1911	34,828	2,690	8.4	14.0	2.4
1910	32,138	1,256	4.1	13.4	-----
1909	30,882	2,805	10.0	13.4	-----
1908	28,077	3,403	13.8	12.7	-----
1907	24,674	3,700	17.6	11.6	-----
1906	20,974	-----	-----	10.3	-----

### CHILDREN'S YEAR—STANDARDIZED MEDICAL EXAMINATION.

R. Langley Porter, M.D., San Francisco.

The medical profession all over the state is giving time generously, in order that Children's Year shall be a success. Many thousand children will be examined and in order to attain the full measure of education for the mothers and the community, which is the aim of this work, every examination made must be comparable with every other, and every record kept must point out simply and clearly each departure from normal physical stature, development and function in the children examined. Going over this record together with a mother, the examiner should be able to show her to what extent her child exhibits physical conditions that may be remedied and how the remedy can be achieved.

The great purpose of this work which you have so generously promised to aid this year, is to train parents, mothers especially, so that the future may find few avoidable abnormalities and fewer remediable defects amongst our children ready to enter school.

For the medical man it is also important that statistics of the work be obtained so that the labors of the many examiners may be incorporated into a simple and valuable record, embodying easily accessible information about our children, noting their normal development, and making record of the proportion who fail to attain normality together with the reasons for such failure.

In order that such fundamental purposes be met, it is essential that uniformity in methods of examination and of record be attained, therefore it is suggested that all examiners adopt a routine based upon the records to be furnished by the committee, and further, that instructions to mothers follow a plan which will especially emphasize pathological conditions that have resulted from such causes as, improper diet, bad

environment, or from the neglect of precautions that can be taken by well-instructed parents. In the instructions to mothers much weight will be put on the external evidences of malnutrition, respiratory and cardiac abnormalities, as evidenced in the condition of the hair, the skin, the mucus membranes and the extremities.

*Hair.* If the hair be dry and broken or the skin ill kept and dry, it would be natural to discuss with the mother the dietetic causes of malnutrition, to dwell on the advantages of bathing and to decry the widespread superstition that sick or weakly children are injured by bathing. Such abnormalities of the skin may often occur together with evidence of old or recent rickets.

*Framework.* Epiphyseal enlargements at the wrists, ankles, knees and ribs can be pointed out, their significance explained and the diet that might have prevented them be briefly indicated. As such bony changes are often the precursors of curvature of the long bones, and defects of the structure of the feet and chest, when actually or potentially present, these curvatures may be demonstrated and the poor posture that will inevitably follow such skeletal changes, indicated together with the means for correction. Especially should the influence of proper shoeing on posture and on the production of long bone deformity be emphasized and if chest defects are demonstrable and the cause for them whether bad feeding or nasal obstruction, or both, should be pointed out.

*Eyes.* The condition of the conjunctivæ is first to be taken into consideration; trachoma is commoner than many think. Chronic conjunctivitis and marginal blepharitis may indicate eyestrain and should be a matter of the parent special consideration; and the fact that loss of vision often follows long sustained strabismus and muscular defects should be taught the mothers of cross-eyed children.

*Nose and Throat.* In the examination of the nose and throat, obstructions are the pathological conditions most apparent. The most common obstruction should be so emphasized that any mother may early recognize a case of adenoids. So, too, there is no reason why a deflected septum should not be brought to her attention. The relationship between adenoids and a chronic rhinitis should be emphasized, also the fact that most so-called "chronic catarrh" or naso pharyngitis arise from tonsils and adenoids. Mothers should be told how the defensive duty of the normal, healthy tonsil fails, and great danger ensues when these organs become cryptic, diseased, absorbers of toxin. In these informal talks stress should be laid upon the close relationship between infection through the tonsil and the inflammation of the heart valves, and the joints, and the appearance of cervical adenitis, whether chronic or acute, and the most important part these cervical glands play as indication of early tonsil infection, or when less acutely involved as indicator of constitutional disease.

*Ears.* The ears are examined both externally and internally. The mother should be made to realize the great necessity of seeking proper medical aid immediately an acutely inflamed ear is recognized, and the danger inherent in a chronic otitis media should be pointed out together with the fact that mastoid septicemia may often be prevented by prompt and proper attention to apparently trivial ear disease.

*Teeth.* Every medical examiner will feel the need to pay particular attention to the child's teeth. The need for cleanliness can not too often be reiterated. The relation between caries and malnutrition is one of which parents are not sufficiently aware; much adenitis and anemia can be traced to bad mouth condition. In particular, mothers should be made to realize that the first set of teeth is by no means to be neglected, not only because of the immediate effect of decay, but because the deciduous teeth remaining carious in the gums form foci from which pathologic organisms invade the tender dentine of the newly erupting second set.

The adviser must not let the parent forget the great value of the sixth year molar as the keystone in the formation of the mandible, and they should not be allowed to look on this tooth as a "first tooth" and allow its extraction, for when this is done a permanent tooth is lost and an entire change in the shape of the face may result from maldevelopment of the lower jaw.

*Abdomen.* Departure from the normal size and contour of the abdomen: Malnutrition, rickets, and intestinal abnormalities are often naturally related to extreme potbelly, while on the other hand the importance of the scaphoid belly as an index of serious disease, can be considered. Visible peristalsis, diastasis of the rectii and visible hernias should all be shown the parent. The palpation of the liver and spleen may reveal significant enlargements.

*Genitalia.* In the genital region, exaggerated phimosis may clear up the mystery of continual discomfort in a young baby. If the mother is taught the necessity of thorough cleanliness and daily retraction, phimosis and much genital irritation may be avoided.

*Nutrition.* To the trained eye, the general appearance of the child may reveal much that is hidden to the mother. The posture, the tissue turgor, firm resistant subcutaneous tissues speak for health; flabby, nonresistant ones for malnutrition. The expression—tired looking children with dark circles about the eyes, need to have their diets revised, or else have grave disturbances of health. Cyanosis of the cheeks, ears and finger tips may speak of cardiac or pulmonary disease. The bony changes in the skull of rachitic children are recognized at a glance. Disproportion between various skeletal members may reveal achondroplasia or other structural deformity.

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## TEETH OF THE CHILD UNDER SIX.

### THE MOTHER'S DUTY.

By M. EVANGELINE JORDAN, D.D.S., Los Angeles.

We owe it to every child that it should have perfect teeth. It is our responsibility.

Ask yourself, "Are we shirking our responsibility or not?" In most cases the responsibility seems to begin when the child enters school. Such is not the case if we have made no effort to have enforced pure food laws; if we have not done our part in educating the expectant mother, or in helping her to deal wisely in the question of diet for the growing child.

I feel that, as yet, the physician is not entirely awake to the responsibility he owes to the community in the education of mothers about the sort of diet that will develop healthy jaws and teeth. He must still be neglectful when 75 per cent of the children enter school with carious teeth and undeveloped jaws, not more than 5 per cent of whom have ever visited a dentist.

#### Need for Early Care.

With care and knowledge children can have perfect teeth, but the care must begin early.

All of the deciduous teeth and the first permanent molar are developing at the birth of the child and any interference with nutrition at this period may have a serious effect upon their development. This is one of the greatest dangers of the present day, because an unfortunately large number are put on the bottle.

In using the bottle there is often a period when the baby is ill-nourished because it can not digest the artificial food. If this period is prolonged and there is great malnutrition, the growth of the teeth in the tiny jaw is interfered with, and the teeth may be badly shaped, with pitted surfaces.

When a child constantly sucks away upon the nipple of a bottle or upon a pacifier, or even upon a thumb or finger, the tender jaw is pushed up, causing the horseshoe containing the teeth to become narrower than the lower jaw on one or both sides. This must be corrected later in life, at great expense and discomfort to the child, while in babyhood it can easily be prevented.

Another objection to bottle-feeding is that many of the foods used are deficient in lime salts, and poor teeth result. If the food is too sweet it causes rapid decay of the first teeth as they begin to erupt. I have found the anterior teeth of many condensed-milk babies badly broken down at eighteen months, or before all the molars were in place.

#### Feed Hard Starchy Foods.

After the teeth begin to come children should be given all their starchy food in *as hard a form as possible* and the per cent of starch limited.

The preponderance of the carbohydrates in the diet is one of the causes of so many children entering the kindergarten with their teeth broken down to the gums and small undersized jaws. One of our responsibilities is spreading the knowledge that no *demineralized white bread or crackers* should ever be given to a child under five. We not only need all the lime salts contained in the dark breads to build the teeth and bones, *but we need exercise to develop the jaws.*

Children who eat tough bran bread made into toast instead of mush and who do not drink while eating usually get the proper development of the jaws.

Mouth hygiene, to be effective, *must be begun as the child enters school* and not left until the first permanent molar is breaking down.

Unless you have examined the mouths of the children in a kindergarten you have no idea how many of them have from one to six or seven, and I have treated as many as ten, teeth with abscesses with the gums covered with boils.

Under modern conditions of bottle-fed babies, impure foods, and crowded city life, a large number of children begin to need dental work in the second and third year and often some of the teeth are *lost* by the fourth year.

#### Child Must Be Protected.

Every child compelled by the law to attend school has the **RIGHT** to be protected from the spread of disease through the germ-laden breaths from the filthy mouths of such children.

In working for very young children I have found that if the teeth are polished once a month and given reasonable care at home *no cavities* will form.

In studying over the most economical way in which to care for the teeth of school children I believe that the following will bring the best results because the work is begun before or about the time of the eruption of the *first permanent molar*, which under present conditions is more often lost than any other tooth in the mouth and its loss is irreparable to the whole system of the child.

Have the teeth of all children filled before they enter the kindergarten.

Have a daily morning cleaning of the teeth as part of the exercises in the kindergarten and first primary grade.

Mark children upon their oral hygiene just as upon reading or spelling.

#### Value of Exercise.

Arrange games that will develop strong, correctly shaped jaws, such as lifting weights with the teeth or rapid running with tightly closed lips.

Give all the children in the kindergarten and first grade monthly prophylaxis. This last sounds formidable but it could easily be managed at a small expense by having an auto van fitted up as a dental office to carry five dental chairs and an office desk. The force would consist of one dentist with five dental nurses and an assistant to sterilize instruments. The van could be moved from school to school; the work in each school requiring part of a day only.

The electricity for the dental engines and sterilizer can be furnished by the engine of the van. Water could be connected at any hydrant and the waste pipe could be connected with the sewer.

The dentist in charge would oversee the work, mark the school cards, send any unusual cases to the stationary dental infirmary, and lecture at mothers' meetings.

The result of such work would be magical. Epidemics of colds, measles, whooping cough, etc., would be almost unknown and the amount of school work each room could accomplish would be greatly increased. This would be one of the best ways to fight tuberculosis.

The final argument in favor of such a method is that the school should teach them the most valuable lessons in life—physical development and keeping the gateway to the body clean—by repeated lessons just as it teaches them to read.

## THE CHILDREN'S HEALTH CENTER.

MRS. ALFRED McLAUGHLIN, Chairman Baby Hygiene Committee Association, Collegiate Alumnae; Member Executive Committee Children's Year for California.

("The appalling waste of infant life is no longer regarded as one of the unalterable dispensations of Providence. The blame has shifted to society and to social conditions—ignorance, indifference to the laws of health \* \* \* impure milk, over-crowding and bad housing.")

This quotation from Dr. Holt has been repeated again and again since it was written, gaining new impetus now from the analysis of the draft rejections, 35 per cent of our men being found unfit at the age which should find them at their best. It means that in spite of all their efforts, women have fallen down on their job with one-third of the men handicapped. Of this 35 per cent, 17 per cent were suffering from results of defects which might have been eliminated in childhood, and this here in California, where we have such favorable conditions as climate, pure milk, plenty of and easily obtained fruits and vegetables, and no over-crowded slums.

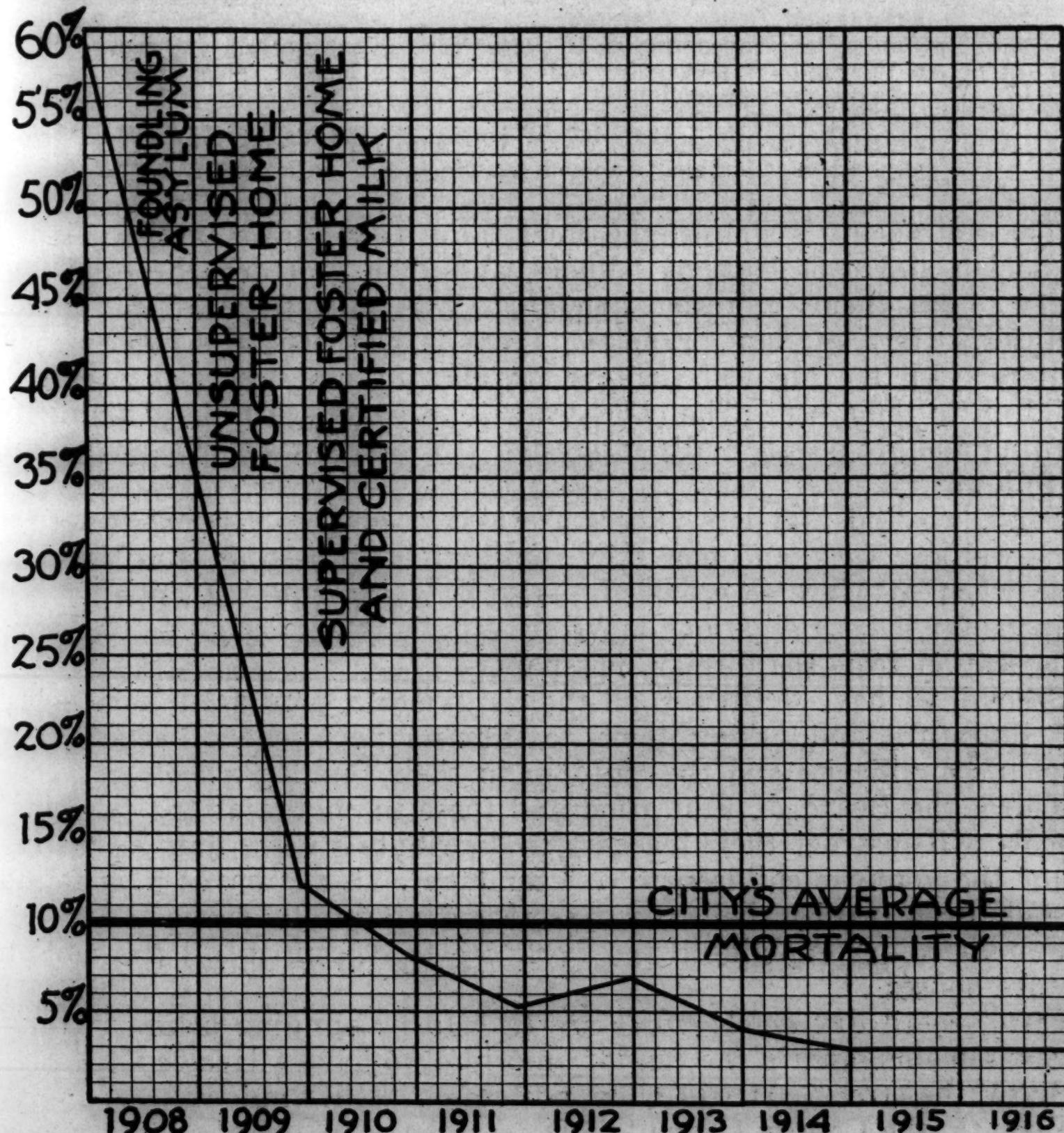


Table showing reduction in infant mortality among foundlings to below city's average, in supervised foster homes, supplied with certified milk, under the San Francisco Association of Collegiate Alumnae.

What can be done is shown by the mortality chart (shown in this issue) of the group of babies cared for by the San Francisco Associated Charities, and the Association of Collegiate Alumnae of San Francisco, this group a foundling group. The chief factors in gaining this result were: carefully selected foster homes, proper food and the weekly clinic where the babies were weighed and carefully examined, while the doctor, visiting nurse and mother conferred to keep the babies well, and early defects were recognized and corrected before it was too late.

#### Equipment Needed.

A Health Center of this kind can be very simple, and ought to consist of two rooms, one a reception room and the other an examination room. The equipment for the examination room is as follows:

(1)	One table scales, called "Grocer's Scales," with scoops riveted or wired on, the price about-----	\$10 00
(2)	Bathroom scales, price-----	24 00
	Bathroom scales with measuring rod, price-----	33 00
(3)	One table on which to examine the baby-----	3 00
(4)	Pad for examining table (blanket and sheet)-----	
(5)	Tissue paper napkins for scales and table, to be changed after each examination, price, 500 for-----	50
(6)	Two measuring tapes, one on the table for the babies, and one tacked on the wall for measuring older children, price, 10 cents apiece-----	20
(7)	Washbasin for physician-----	50
(8)	Tongue depressors, price per gross-----	50
(9)	Paper bags like millinery bags, in which to put the clothing of the baby, when it is being weighed (newspaper may be used), 1,000-----	8 00

The equipment is simple, the chief thing is to find a public spirited physician and conscientious helpers, and then to reach the public in order to get them interested enough to take advantage of the opportunities. Here in San Francisco, there is no need to stimulate new centers. All the Medical Centers are glad to add supervision of well children to their list. The chief work is to get the wheels of publicity turning and get people really interested. The avenues we have tried are as follows:

First, we find that our papers are always glad to give us space for baby welfare work, and now they stand ready to help us, and this at a time when they are so crowded. Also they are running appointment coupons for the examinations. We are especially anxious to get the same co-operation from the foreign newspapers.

Second, we have written to all the clergymen a personal letter enclosing literature and asking them to interest parishioners, members of women's auxiliaries and the children in their Sunday-schools.

Third, the Board of Education and those in charge of the parochial schools will instruct their teachers to distribute slips to pupils, urging all of the younger children to be examined. In all drives it is found that children furnish the best means of getting into the home.

Fourth, slides explaining the work are to be run in all the motion picture houses.

Fifth, retail dry goods stores are to help by running a line in their advertisements, and in the case of one store, to have a Health Center.

Sixth, the street cars will allow posters on their windows.

Seventh, the County Council of Defense has a Woman's Army which will make a house-to-house canvass.

Eighth, a group of women has been organized to give five-minute talks in every gathering of women.

#### All Agencies Interested.

All organized agencies of any kind are interested and help, and June will show the impression made. In the mean time I wish to extend to any one interested a most cordial invitation to visit the Children's Health Center at 323 Haight street, San Francisco, established by the Baby Hygiene Committee of the Association of Collegiate Alumnæ. Children's clinics are held on Friday from 10 to 12 and on Wednesday from 11 to 12.

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### THE BABY HOSPITAL IN ALAMEDA COUNTY.

By MARIAN L. STEBBINS.

During the five years since the Baby Hospital opened its doors to the sick babies of Alameda County, the Board of Managers have labored to one end—so to improve the child health of the community, so to educate mothers that a hospital for babies should be unnecessary. So from the very first, the hospital, whose average capacity is 22 beds, though this has been extended in emergencies to 30, has been a receiving depot for those acute and serious cases where home care was not possible. The great work of the Baby Hospital Association has been through its Clinic or Outpatient Department. In the group of buildings that have sprung up one by one, as the need grew, adjacent to the hospital building, the devoted staff of doctors and nurses help an average of 62 babies and children daily, on the road to health and efficiency. But the daily clinics are only the beginning of the work of prevention and education which has been carried through the work of the visiting nurses into 3,264 families in Alameda County in the last five years. Cases discharged from the hospital, as well as those in the care of the clinic, are visited in their homes by these nurses, who carry out the physicians' instructions in the way best calculated to advance the health of the child and the general hygiene of the home.

The clinic itself is the scene daily of sights at once profoundly pitiful and hopeful—pitiful because they reveal so much of ignorance, chiefly (though poverty and evil contribute their squalid share)—hopeful because not only are the feet of these "little citizens" set on the road to health, but the mists of ignorance are scattered by the kindly and intelligent teaching which shows the mother the way to better health and more careful living for all the family.

#### Prenatal Care.

Most interesting of the special departments which have extended the usefulness of the clinic, is the prenatal care given to expectant mothers. Women who have lost all their previous children or whose living children are sickly—under the care of clinic doctors and nurses—are delivered of fine healthy babies who are started right and kept right. Many of these women have formerly been in charge of a midwife, some attended by a physician, but with no care or advice before or after.

The dental clinic, with its extension into orthodontia work is nearly two years old, and has proved its usefulness both in the relief given to the children, and in the help dental investigations give in general diagnosis.

As a diagnostic aid too much can not be said of the psychopathic clinics, held biweekly under the supervision of an authority in this work, which are doing so much to make clear the connection between mental and physical health.

The superintendent of the clinic is licensed by the state to investigate boarding homes, and to place orphans and half orphans for boarding and adoption. This gives an additional opportunity for education since many of the children who come to the clinic must be cared for in this way.

#### A Unique Institution.

No account of the work of the Baby Hospital Association would be complete without mention of the hospital itself where the critical and acute cases, often extending over many months in time are slowly brought back to health and strength under the careful direction of the hospital staff of physicians and their able helpers, the nurses. The Baby Hospital is the only hospital in the county devoted entirely to the care of young children, and a highly specialized and efficient care is therefore to be found here.

The opening of Children's Year finds Alameda County, then, in fortunate possession of an efficient agency for saving babies, but with the additional problem of finding more to save than those who are already reached by hospital and clinic.

The Baby Hospital Association has been given by the County Committee for "Children's Year" the charge of infant welfare for the county, and hopes to make this an opportunity for extending the work already organized, to rural communities as yet not reached.

This establishment of community health centers is a vital part of the Children's Year program; it requires money for nurses and the co-operation of physicians and the public. The first, the Baby Hospital Association hopes to obtain through the further co-operation of an enlightened county board of supervisors, who already recognize the association as the children's health agency of the county by a substantial monthly contribution for salaries and drugs. And since there is never any question of generous aid for any movement for public weal on the part of the medical profession, their co-operation may be taken for granted, and "Children's Year" be made the Banner Year for Babies in Alameda County.

## TEACHING THE LITTLE MOTHER THE CARE OF BABIES IN THE COUNTY.

MINA G. CARSON, Public Health Nurse, Los Angeles County.

The Los Angeles County Health Department has been compiling statistics on infant mortality for the past three years with the definite object in view of offering the public a feasible remedy toward lessening this unnecessarily high death rate of babies and young children.

Three of the greatest factors influencing these deaths are ignorance, primitive modes of living in congested districts, and improper feeding.

After making a study of the problems confronting us, we came to the conclusion that, in order to correct these conditions, we must send a teacher-nurse into the various districts of the county as a friend and a teacher to these people.

Naturally the center for such activities in the rural districts is the school, and with the splendid co-operation of the county superintendent of schools and the health officer, we have been able to place several certified teacher-nurses in the county schools who teach the Little Mothers of the County the care of the younger baby in the household. These lessons are arranged with a view to spotlight the natural mother instinct of the child and her interest in demonstrations.

Of course, the lessons given to the children of the grammar school are largely sugar-coated in order to interest the child in health. However, the child assimilates and takes home to the mother the essential points, and in time calls forth the request of a home visit from the nurse.

The plan as presented at the present time is as follows:

### - Method of Procedure.

- (1) A short talk to the girls about the work of the other girls throughout the country. We make the talk in such a way that the girls ask us to start a class in their school so that they may join the league.
- (2) The selection of a first and second leader to assist the nurse in the work and to help the younger children during the week until the next lesson.
- (3) Each girl receives a medallion, hung from a ribbon, of our national colors, to be worn by her every day. On the face of the medal in bas relief is the face of a child, together with an inscription which reads: "Save our Babies, L. M. C." (Little Mothers' Classes.)
- (4) The Principal is always made Honorary Leader and receives a badge, which she wears, at least on class day.
- (5) The girls sign a pledge to do some kind act for Mother each day or take care of the baby without being asked.

### Brief Outline of the Course.

- I Growth and development of children and animals and plants:
- II and III. The Bath:
  - (a) Water, its relation to life.
  - (b) Kinds of baths.
  - (c) Method of making a shower bath out of a bucket, etc.

**IV. Fresh air, sunshine and plan:**

- (a) Relation to life.
- (b) Baby-pens, boxes, buggies, etc., and how to make them.

**V. Sleep.**

- (a) Beds and how to make them.
- (b) When, how, and where to sleep.

**VI. Clothing:**

- (a) Kinds and materials used for a baby.
- (b) Patterns and cutting out of clothes.
- (c) Winter.
- (d) Summer.
- (e) Each girl makes one garment to complete a set of short baby clothes. After the one lesson she does this as home work. In this wise, she brings her problems home to Mother and Mother has to listen. When finished, these clothes are given to some baby in the neighborhood.

**VII. and VIII. Kinds and preparations of food for a baby:**

Aside from the simplest things taught the child, we have two very good lessons on food for "Mother," which the child takes home.

## (a) Milk:

Mother, cows, patent foods.

## (b) Cereals.

(c) Soup; vegetables and beans. This latter is very important as it is the hardest thing in the world to teach certain classes of mothers not to feed beans to the baby.

## (d) Eggs.

## (e) Breads, toast, etc.

**IX. Dish washing:**

## (a) Care of bottles.

## (b) Care of the dishes, stove and kitchen.

**X. Washing and ironing.****XI. Sweeping, scrubbing and dusting.****XII. Personal care of the hair, nails, teeth and clothing.**

As stated before, this is just a beginning to work out and improve upon, that the girl of today, who is the mother of tomorrow, may receive the training now that she will need then.

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**THE CHILDREN'S DIET IN WAR-TIME.**

By AGNES FAY MORGAN, Ph.D., University of California, Department of Home Economics, Berkeley.

The proper feeding of the child from one to six years of age is a problem of the utmost importance, because of the probable far-reaching influence of the nutrition during this period upon later development and resistant vitality. Certain well established rules are agreed upon as governing the selection of food for children of this age, and it is for the presentation of these rules as modified by the necessity for conservation during war-time that this article is written.

### I. The Food Needs of Children.

The bodies of children require food for the same purpose as do those of adults, and in addition require extra material for the production of new body tissues added during growth. These physiological purposes of food may be classified as follows:

1. *The need for fuel*, out of which to produce the heat necessary to maintain the constant body temperature of 98.6 degrees Fahrenheit, and the energy for the doing of muscular work, both voluntary and involuntary. Nearly all ordinary foods contribute in some degree to the fulfilling of this necessity, and the study of the value of foods in this regard is of considerable importance. The total *quantity* of food to be eaten by the child is governed entirely by the fuel need of the child, and the fuel value of the food given.

Although most foods have some fuel value, certain foods have other value as well, as noted below, while others are fuel for the little bodies, and nothing else. Examples of the latter class are sugar, fats and starch. The cereals, potatoes and legumes, are classes of food which contain some building and regulating material, but which, on the whole, may be regarded as largely fuel.

2. *The need for building material*, out of which to repair the body tissues broken down in the wear and tear of every-day living, and to build the new tissues demanded by proper growth. There are at least two varieties of materials required for these purposes: (a) protein, the chief chemical constituent of all animal cells, and (b) the mineral or ash constituents so necessary for bone and blood formation.

Many foods supply protein, but only a few supply the *kind* of protein most available for the building up of the child's body. Milk, meat, cheese, fish, eggs, nuts, cereals, legumes such as peas and beans, and gelatin furnish protein, but only the milk and milk products, meat, eggs and fish supply protein out of which repair and growth of the child's tissues can be easily and advantageously maintained. Cereals, vegetables, nuts, and gelatin may be used to supplement the animal foods above mentioned, but should never be depended upon to supply all the protein in the child's diet.

The mineral constituents of greatest importance are iron, calcium or lime, and phosphorus. The iron is present in egg yolk, green vegetables, meat juice, whole grains; the lime is found in large amount in milk, cheese, vegetables and fruits; the phosphorus is well distributed among all foods, and is particularly plentiful in milk, fish, meat, vegetables, fruits, and whole grains.

3. *The need for regulating material* by which the physiological processes are maintained in smooth running order. A complete list of the substances necessary for this purpose can not at present be given, but it may be stated that the mineral constituents mentioned above are known to exert certain regulating influences, and that obscure substances found in certain foods and called for convenience *vitamines*, are necessary for health and even for life.

So far only one class of such vitamines has been shown to be indispensable for the health of the adult. This is the water-soluble substance present in fresh milk, fresh fruits and vegetables, meat, fish, eggs, beans, the outer coatings of grains. When the diet is lacking in

a sufficient quantity of at least one of these foods, the disease called beri-beri develops, as it did in the Philippines and Japan where polished rice was used as practically the sole food. Certain other diseases, such as scurvy, pellagra, rickets, are more remotely connected with deficiencies in the diet, but beri-beri is quite definitely a disease of deficient diet. There is little danger of this condition being developed in California, even among the poorest classes, for such a one-sided diet is not apt to be chosen in our well-stocked and varied markets.

The second class of vitamines, the fat-soluble substance or substances, is of peculiar value to children, since without their presence growth can not take place, and an eye disease leading to blindness has been found to occur. Milk fat as found in whole milk, cream and butter, the fat of egg yolk, cod liver oil, and in smaller quantity the softer parts of beef fat, carry this fat-soluble vitamine. The same substance occurs in the leaves of green vegetables, such as lettuce, cabbage, celery, spinach, artichokes.

## II. Special Precautions to Be Observed in the Feeding of Young Children.

1. *The total amount of food given must be regulated by the activity, size, and state of nutrition of the child.* The body weight should be ascertained frequently, and satisfactory increase regarded as evidence that sufficient food is being given. If the child is thin, pale and nervous, too little food and a poorly selected diet are being given; if the child is pale, flabby, and overfat, too much food, especially too much sugar and starch, is being fed.

2. *The digestibility of the diet must be safeguarded with especial care in the case of young children.* Much of the coarse cellulose fiber, seeds, skins, etc., of fruits, vegetables and cereals should be removed; meat and fish should be thoroughly cooked and scraped to a pulp; no fried food should be given, nor heavy pastries, pickles, coffee, tea, beer nor wine. The regularity of meal hours is a large factor in inducing good digestion, and the giving of water between and at meals is necessary. The meals may well be given at 8 a.m., 12.30 p.m., and 5.30 p. m. At 6 a.m. or 3.30 p.m. a drink of milk may be used for the child of two years. No food whatever should be given between meals.

3. *The variety in the food is important, not so much for the pleasure of the child as for the education of his food tastes, and to secure the necessary constituents of a well-rounded diet.*

These constituents may be summarized as follows:

- a. Fuel foods: Cereals, potatoes, sugars, fats, milk, eggs, meat, fish.
- b. Building material: Milk, eggs, meat, fish, vegetables, fruits.
- c. Regulating material: Milk, eggs, butter, cream, green vegetables, fruits.

## III. Conservation and the Child's Diet.

*Milk.* It is plain that an indispensable part of the child's food is milk, and that whole fresh milk, cream or butter are first to be chosen, then skim milk, condensed milk, buttermilk if the fresh whole milk can not be obtained. *Every child between one and six years of age should have a quart of whole milk a day.* No more than a quart should

be given, in order that other excellent foods may not be crowded out of the menu. Every warring nation in Europe has made special provision that children shall obtain a quart or pint of milk a day before anyone else can be given milk. No war stringency should interfere with our own provision of the same.

*Eggs.* Eggs may be given early and often if carefully soft cooked (coddled), and the yolk of egg particularly, fed frequently to the delicate child. There is no objection to the use of unlimited quantities of eggs during war conditions.

*Meat and fish.* Meat and fish, particularly the lean varieties, such as beef, chicken breast, halibut and cod, may be given once a day, as early as eighteen months, especially if well pulped. Fried meats, pork, salmon, tuna, are not suitable for the child's digestive tract. It is well to remember that broths and soups made from meat have little nutritive value, but considerable stimulating effect, and should therefore seldom be given to children. When vegetables and cereals are added to such soups, their value is much increased. During the war fish, milk and eggs may be substituted for meat in the child's diet without the slightest loss.

*Cereals.* An important part of the child's diet, added usually first after milk in the first year, are the cereals. These may be given first as gruels, then as mush or porridge, and should be prepared by careful straining of the boiled cereal and water. There is *no first choice* among cereals, each grain having its own quota of fuel and other food values, and the best results will probably be secured by provision of a considerable variety. Oats, corn, wheat, barley, rye and rice, are found to furnish much the same nutriment in kind and quantity. There can be no objection then to the elimination of wheat altogether from the diet of young children, and the substitution of barley, oats, corn, or rice in its place. Where cereals of all kinds are scarce, potatoes may well be used to take their place, *provided the other indispensables of the diet, milk and green vegetables are maintained in the usual amount.*

Toasted oatmeal, barley, rice and corn cookies and muffins may be given instead of the usual toasted wheat bread. Hard crackers or toast should be provided in order that the child may learn to chew, and to assist his tooth cutting. Hot or soft breads, cakes, muffins, waffles, etc., should never be given to young children.

*Vegetables.* It is clear that on many accounts fresh vegetables, particularly the green or leafy vegetables, are valuable and indeed indispensable in the young child's diet. Fortunately, there is no war-time restriction upon these foods, their production, in fact, being much increased by the war garden movement. They may be given as purees, or mashed and strained. The choice usually best is: spinach, lettuce, cabbage, sprouts, green peas, string beans, carrots, turnips, cauliflower, beets, artichokes and celery. It is well to remember that these vegetables are low in fuel value, and can not of themselves form the main portion of the food.

*Fruits.* The refreshing quality and laxative effect of fruits and fruit juices account for their large role in the diet of children. Orange juice may be given very early, then the strained pulp and juice of all the other ripe fruits, such as prunes, apricots, grapes,

peaches. In California the variety is unending, and no one should allow a child to have either too little fruit, or any spoiled or unripe specimens. Bananas should be baked, or else very mellow and ripe before they are fit for the child's consumption. There is no restriction upon the fresh perishable fruit which may be used by adults or children in war-time. Fruit juices of the berries may be used.

*Fats.* No fat other than milk fat need be given as such to the child, nor should fat be used in the preparation of food for the child.

*Sugar.* The child is far better off without granulated sugar or candy, and if given, the latter should be at the end of a meal, so that the taste for other food is not destroyed. Sugar is excellent fuel food for child and adult, but can not supply building or regulating material. It should not, therefore, be allowed to crowd other foods out of the child's diet. The natural sugar of fruits, occasionally honey, corn syrup, or molasses, should take the place of granulated sugar altogether.

To sum it all up: feed the child a quart of milk a day, plenty of eggs, fish, green vegetables, potatoes, corn, oats or rice, fresh fruits and butter; be careful as to the texture and digestibility of the food, and the regularity of meals, and his health and growth will be as well guarded as diet can assure. Wheat, meat, fats other than butter, sugar as such, may be eliminated altogether.

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### THE CALIFORNIA PURE MILK LAW.

By (MRS. C. D.) MERION MITCHELL WEBSTER, Sacramento.

Care of the milk supply, being the first and most important step in the reduction of infant mortality, is of vital importance. Although milk is the sole food of the child during early life, it is the only food whose sale has been generally permitted without any guarantee as to its purity and safety. Its control should be state wide. Municipal control alone means that milk refused by cities is used in the smaller places, causing disease and reacting on the cities themselves.

Recognizing these facts and feeling that a reasonably safe, clean product should be provided for all classes, rich and poor, intelligent and ignorant alike, the Sacramento Woman's Council initiated the so-called "Pure Milk" bill during the 1915 session of the legislature.

An innovation in milk legislation, it was bitterly opposed on all sides, passing the legislature by a close margin on the final day of the session. On June 11, 1915, Governor Hiram W. Johnson signed the bill, which, with his approval, placed California on record as the first state to shoulder its responsibility and provide adequate milk regulation.

A vigorous educational campaign followed the enactment of the law and when it became effective, October 1, 1916, hundreds of dairies were already complying with all its provisions.

With a few minor amendments, it was reintroduced, during the 1917 session of the legislature, by the Sacramento Woman's Council, the Northern District of the California Federation of Women's Clubs, and the California Congress of Mothers, endorsed and assisted by the State Board of Health, the State Veterinarian, the Stockton

Woman's Council, Dr. Adelaide Brown of San Francisco, Dr. Mary Ritter of La Jolla and many others.

This time it passed the legislature with practically no opposition (only two dissenting votes in the Assembly and none in the Senate), was signed by Governor William D. Stephens May 22, and went into effect July 27, 1917.

The law provides that no milk from cows that have not passed the tuberculin test shall be sold in the state unless properly pasteurized. It further provides a standard of inspection for grading milk according to quality, that the consumer may know what is being purchased and pay accordingly. Grading of milk, except under inspection, is forbidden, but counties and groups of counties are authorized to unite and establish joint inspection service.

The tuberculin testing has worked out satisfactorily throughout the state, as have the other provisions of the law in the larger cities where a milk inspection service has been established. In small towns and country districts much is still to be desired. Health officers, in some cases, have neglected or refused to follow up the veterinarian's work and dairymen continue to sell raw milk without having removed the reactors. Obviously, the state, with its limited funds, can not ferret out all these cases. It is, however, prepared to follow them up when brought to its attention.

The State Board of Health has issued a special bulletin (No. 13), called "Production of Pure Milk." This contains the law itself, rules adopted by the State Board of Health, the State Dairy Bureau and the State Veterinarian, also some valuable comments and advice.

Send for a copy and study it carefully. You will then know just what you have a right to demand. Investigate the dairies supplying milk to your community and inform other women as to existing conditions. With their cooperation, if possible—if not, alone—get in touch with state authorities.

Write Dr. Charles Keane, State Veterinarian, Sacramento, for information as to tuberculin testing in local dairies. Follow this up by insisting that all reactors be removed from the herds or the milk properly pasteurized. A letter to the State Dairy Bureau, San Francisco, should accomplish this.

The State Board of Health, Sacramento, can assist you through its district health officers. Write the board, stating, briefly, conditions as you have found them and follow its advice.

The following typical questions may be useful to you at first. As the work progresses, many others will suggest themselves:

1. Has the community in which you reside a live health officer? Does he supervise the pasteurization, distribution and sale of milk and milk products?
2. Has the health department established an inspection department, recognized by the State Dairy Bureau?
3. Are the dairy herds, supplying raw milk to your community, regularly inspected and, if so, by whom?
4. Have these dairy herds been tuberculin tested under state supervision? Have reactors been removed?
5. Are milk and milk products properly labeled?

6. Do the dairymen supplying raw milk to your community produce all of their own milk or do they purchase part of it from other dairy-men whose herds have not been tuberculin tested?

7. Has your dairyman purchased and introduced untested cows into his tested herd? If he has, his milk is probably improperly labeled and should be unsalable.

In closing, it may be well to remind you that although California leads all other states in milk legislation this is not enough. A statute ignored, neglected or half enforced is doubly dangerous, giving, as it does, a false sense of security.

The state provides the law and the machinery for enforcing it. We must follow it up, consistently and persistently, until it is honestly and energetically enforced in every corner of the state, for upon us and us alone rests the final responsibility for safeguarding our children's milk supply.

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### SHOULD CHILDREN BE VACCINATED?

By WILFRED H. KELLOGG, M.D., Secretary California State Board of Health.

Considering the comparative rarity of smallpox and the frequent mildness of the cases when it does occur in these modern days of general vaccination, it is little wonder that we so often encounter among the people a tendency to underrate the gravity of the disease and the necessity of taking advantage of the means which we possess for preventing it.

At the time of the discovery of vaccination by Jenner, something over 100 years ago, smallpox was a disease of childhood and as common, if not more common, than is measles today. The reason that it was a disease of childhood was that the children constituted the only immune group in the community. The adults had all had the disease and the person who was not pock-marked was the exception. In those days the disease was very fatal. According to the French physician de la Condanime, writing in 1754, "every tenth death was due to smallpox." It disorganized, and even destroyed, whole armies and more than once determined for the time being the map of Europe.

How different is the situation today, when the greatest armies the world has ever seen have been contending for four years on the battle front, living in trenches and dugouts, pestered with vermin and plastered with filth, yet smallpox has been the least of the worries of the medical departments or the general staffs, due solely to the compulsory vaccination which prevails in all the armies. This alone is a sufficient answer to the few who would contend that our immunity to smallpox is due to improved sanitary conditions and not to vaccination. If further proof of the efficacy of vaccination be required, one need only consider the history of vaccination in the German army and in German civil life. In 1870 the German army regulations did not require vaccination, and smallpox became so prevalent among their troops in France and following their withdrawal and dispersion to home stations, the disease prevailed so extensively in Germany that the vaccination

law was passed in 1874. This law required vaccination during the first year of life and again at the age of twelve. Since that time and until the present war, a period of forty years, only two deaths from smallpox occurred in the German army, and in civil life the population became so well protected that cases of smallpox were no longer isolated but were treated in the open wards of hospitals. So much for the necessity for and efficacy of vaccination.

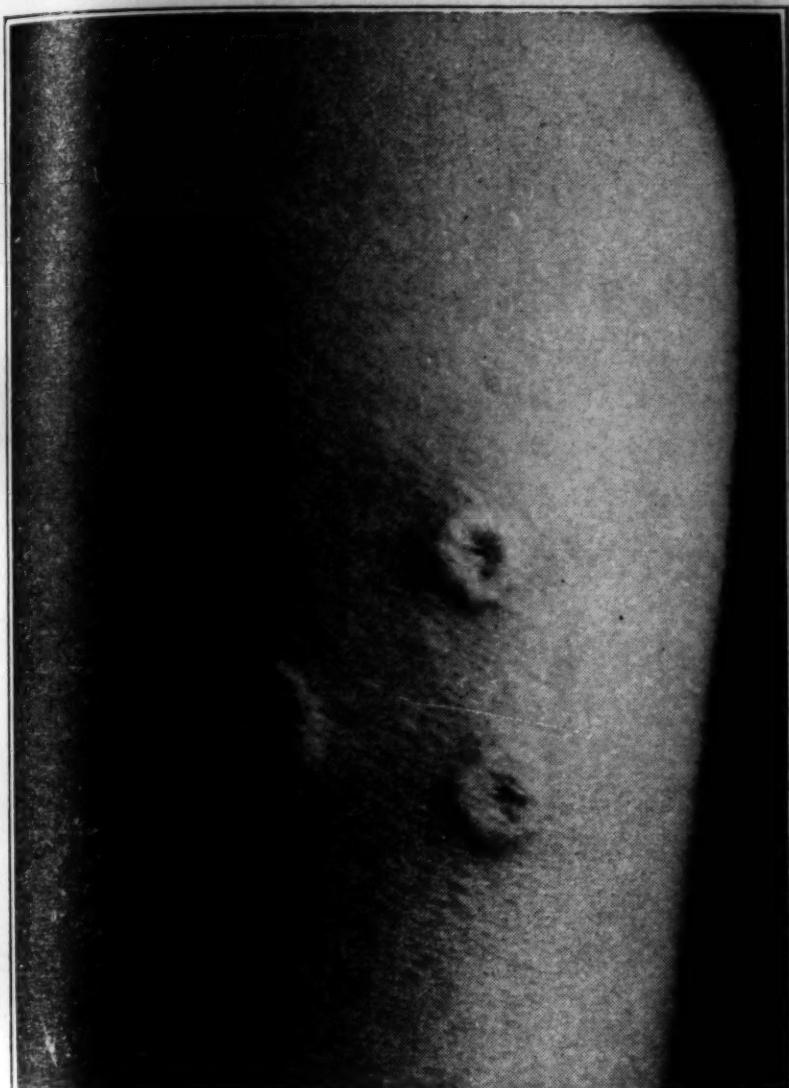


FIG. 1. Vaccination, at the height of the reaction, on the arm of a previously unvaccinated subject.

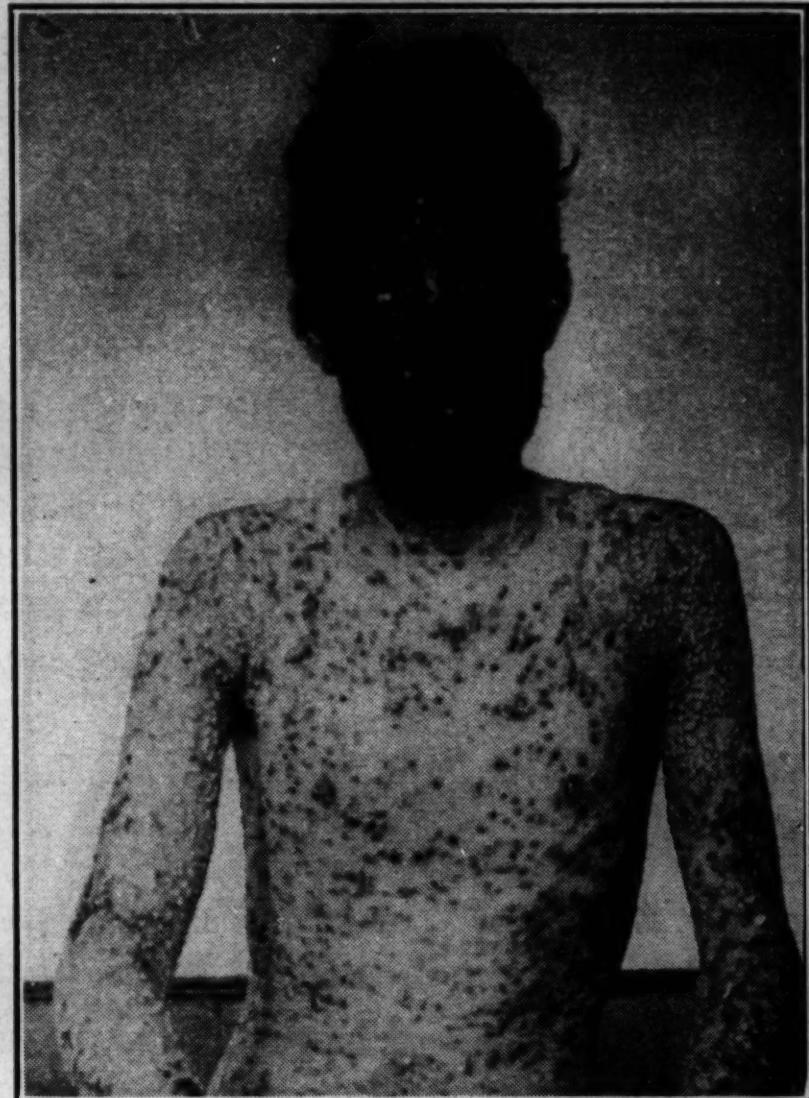


FIG. 2. A well defined case of smallpox. Do you prefer this—or vaccination?

As to the possible dangers of vaccination, when it is properly performed by some such method as is advocated by the State Board of Health and described in its Special Bulletin No. 26, it is absolutely without the slightest danger and results in only a slight soreness of the arm, with or without a slight fever for a period of a few days. Instances of very sore arms, and even infection resulting in death, have been recorded in times past, but it is absolutely certain that these have been due solely to improper technic in vaccination or in carelessness and contamination of the lesion afterward. In the same way badly infected hands and fingers often result from slight cuts or punctured wounds when they are not properly treated. The proof of this statement is in the figures of the United States Army upon vaccinations performed in the Philippine Islands after the American occupation. There three million people were vaccinated without a single death.

Dr. John F. Anderson of the U. S. P. H. S., in 1915, reporting on the possibility of tetanus following vaccination, stated that from 1904 to 1913 over thirty-one million doses of vaccine virus were used in the United States and only forty-one cases of tetanus could be traced to the vaccination wounds. This small number shows that it could not possibly have had any connection with the vaccine virus which is further

proven by the fact that when the vaccinations were properly performed, as is the case in the United States Army, tetanus never resulted. Figures from the army show 585,000 vaccinations without a single case of tetanus following. Even in grossly contaminated vaccination wounds that are improperly dressed, tetanus can not result if the technic employed has been that used by the army or recommended by the State Board of Health.

The protection following vaccination is absolute and complete for a varying period of time and gradually diminishes so that it is probably very much diminished after a period of six or seven years. People should therefore be revaccinated within that period of time, especially if smallpox is prevalent in the vicinity. Children should be vaccinated in the first year of life and the vaccination should not be postponed except in cases of weak and sickly children. When properly performed with fresh and potent virus the percentage of "takes" should be one hundred in unvaccinated people. Therefore, failure to "take" should be taken as an indication for a fresh attempt with a new lot of virus. Study well the two pictures shown on page 529 and decide for yourself whether it is better for a child to undergo the very slight inconvenience of a vaccination or to run the risk of death or disfigurement following such a loathsome disease as is pictured in Figure No. 2.

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## CHILDREN'S YEAR PROGRAM AND CHILDREN'S EYES.

By EDWARD F. GLASER, M.D., San Francisco, Member California State Board of Health.

The Children's Year Program with its "extension of the ideals of the value and welfare of child life throughout the state," means much for the prevention of blindness in infants and the conservation of vision in children of the preschool age. Better birth registration means fuller and more complete information in the birth certificate, which includes the answering by the obstetrician, of the questions, "Was a prophylactic for ophthalmia neonatorum used?" and, "If so, what?" The fact that he must fill in the certificate, reminds the careless or thoughtless obstetrician to use the proper prophylactic, and few doctors now would have the temerity to answer "No," or leave the lines blank.

The Children's Year Committee in its maternity and infant work must, of necessity, emphasize the importance of the prophylactic for ophthalmia neonatorum, which publicity will stimulate every nurse to understand its administration and purpose, and every mother to demand its employment. It will increase the demand for the wax ampoules containing the 1 per cent solution of nitrate of silver, which prophylactic the California State Board of Health distributes gratuitously to all doctors, midwives and nurses. The Ophthalmia Neonatorum law must become better appreciated and enforced. By it the immediate reporting of every case of ophthalmia neonatorum is made compulsory, thereby securing prompt and adequate treatment.

The Children's Year Program through its cooperation with every mother in California to advise and help her to keep well our children, will, in teaching her the value of hygiene, fresh air and proper

feeding, help greatly in preventing phlyctenular conjunctivitis. This disease, seen so often in our clinics, flourishes in close, unclean and unhygienic surroundings and occurs not only in children who lack proper food, but especially in those given improper feeding.

The examination at medical centers and clinics of children of preschool age will cause eye examinations to be made at an age when the establishment of the proper care and treatment would correct many eye defects usually not noticed until the child attends school. This would prevent much of the defective vision and amblyopias of later life and in the future reduce the number exempted in drafts because of eye defects. "Cross-eyes" are too often neglected until after six years of age and the child is going or is about to go to school. The popular fallacy that the young child "will outgrow" a turned eye, must be stamped out. The importance of immediate attention to a crossed eye, no matter how young the child, must be emphasized. Being under school age, the child too often is allowed to use his eyes with the strabismus or cross-eyes uncared for and uncorrected, causing the turned eye to become amblyopic or blind and the unsightly deformity permanent.

It will be discovered that as a rule blind amblyopic children under school age, receive no special instruction; that there is no provision made in California for their development and guidance during those early, most important, habit-forming years. California must soon establish a kindergarten for the blind infant and the child of preschool age.

#### TUBERCULOSIS IN CHILDHOOD.

By PHILIP KING BROWN, M.D., Medical Director Arequipa Sanatorium,  
Marin County, California.

The yellow flag with its warning against smallpox is so well understood that it is a sign of the community's education that no one dreams of risking an exposure to that dread disease. The expectorating consumptive is a far graver danger with his insidious spreading of his disease, but public opinion has not understood this danger because it is not often acute enough to put fear into the hearts of people. In some way, through educational methods, we must bring this danger home to parents, for it is in early childhood that practically all tubercular infection occurs. It is only necessary to illustrate with a single instance how serious is this danger. A man of fine character employed in the San Francisco post office was suspected by his fellow clerks of having consumption and was directed to be examined by his family physician and to present a certificate of health if found all right. The family doctor heard his story and wrote the certificate as well as a prescription for cough medicine, without examining the patient. Within a few months the complaint against him was made again, and once more he went through the same performance and held on to his job. The youngest of his two little girls came down shortly with a tubercular meningitis and died. The poor man was hard hit by the long illness and went to pieces so that he could not return to work. Before he died six months later, his second child died of tubercular meningitis. Too late, he and his wife learned the lesson and a carelessness or

ignorance they had not appreciated was the cause of bitter unhappiness to the father in the last months of his life. Was it the mistaken kindness of a doctor, the unwillingness of the man to learn or our general indifference to health problems not acute in character? Whatever it was, the problem will be an internal one with us until *education of the people* solves it and we learn that in *prevention* is the only real solution.

Several years ago we made a survey of the children of the tuberculous mothers at Arequipa Sanatorium and among 36 under 5 years of age, one-half showed by skin test, fever and X-ray plates, that a tubercular infection had already occurred. Only two had definitely active signs in the lungs appreciable by physical examination. The foundation had been laid, however, for the tuberculosis of young adult life for when these children grow up and go out to begin their struggle for bread and butter, often in unhygienic conditions living on poor food and sleeping in badly ventilated rooms, neglecting colds and overdoing their strength, they discover too often that something is wrong, and before what it may be becomes apparent, the disease tuberculosis has laid hold on them, never to let go. It is an awakened tuberculosis contracted in childhood that is the foundation of all the trouble.

The Canadian health authorities dealing with returned tuberculous soldiers say that tuberculosis isn't acquired in the army but that the bad air of the dugouts, the horrible irritation of the lungs from gas, the poor food and exposures only serve to light up the tubercular processes of childhood which were not bad enough to cause serious symptoms and which have been lying dormant for years. To escape therefor from this disease so prevalent in young adult life we must prevent the injection in childhood. Better, cleaner milk, fresh air, clean floors and teaching children not to put every dirty thing they pick up off the floor into their mouths, are some of the lessons mothers must teach.

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#### PRENATAL CARE.\*

By ADELAIDE BROWN, M.D., Chairman Children's Year Committee,  
Member State Board of Health.

One of the most important parts of the infant saving program in California this year will be the prenatal guidance to all women who enroll at the Children's Year Headquarters, 323 Haight street, San Francisco. A series of nine prenatal letters which have been used in Kansas and Massachusetts will be sent. The distribution of these letters will be arranged by the committee in co-operation with county committees and state agencies. Following are some of the most important facts for consideration in prenatal care:

*Prenatal Care* means health supervision for mother and child through pregnancy.

*Diet.* Three regular meals, including a variety of vegetables, fruit, starches, with eggs and meat (no eating between meals) a meat meal only once a day after seven months, is a balanced ration. Coarse

\*Written for the Motherhood film which was made in San Francisco by the Baby Hygiene Committee of the Association of Collegiate Alumnae and is now the property of the American Red Cross.

breads, green vegetables and fresh or dried fruits are all laxative. From  $1\frac{1}{2}$  to 2 quarts of water should be taken daily.

*Baths.* As the skin has a share in the removal of waste material, a warm soap and water bath should be taken on retiring, three times a week at least. Alcohol rubs are injurious, as the pores should be kept open.

*Exercise.* Walking, housework, and golf moderately, are all good exercise. An hour or two out of doors is a daily necessity.

*Sleep.* Early to bed and early to rise is safe advice. Ten hours sleep is none too much.

*Teeth.* Careful daily care by two brushings daily; the use of an alkaline mouth wash (soda and water or milk of magnesia) on retiring will keep the teeth normal. Have cavities filled.

*Constipation.* Watch for constipation; regulate it by foods, liquids, and mild laxatives. Prunes cooked with senna are servicable.

*Care of Breasts.* Cold sponge of chest daily in morning. Bathe nipples with soap and water.

Your medical attendant will watch your weight (a rapid increase is not to be sought); also the blood pressure, which shows by its increase undue work on heart and kidneys; as well as the urine, which shows the health of the kidneys, and whether they are taxed by the extra work thrown on them by pregnancy.

A visit to the doctor every two weeks after six months is not overdoing your care.

Sometime previous to the expected confinement, the doctor will measure the bony framework of the pelvis and thus be sure that no insurmountable difficulties to the birth of the child are present.

Be sure to have a good nurse. Your baby's start in life depends on it.

#### Directions for Sample of Urine.

1. Save total quantity for 24 hours in a clean receptacle.
2. Measure same, and send 4 ounces to doctor every two weeks in a clean bottle.
3. Enclose card with name and total quantity.

#### Preparations for Confinement at Home.

1. 2½ yards oil cloth-----	\$0 75
2. 2 lbs. absorbent cotton-----	90
3. 2 doz. newspapers, or 2 squares, 1 yard square, and 4 squares, 18 by 36 inches, of cotton and cheesecloth tufted or stitched-----	
4. Piece of matting or carpet to protect carpet-----	
5. Half dozen sterilized towels, 2 sterilized sheets-----	
*6. 2 hand basins at 30 cents-----	60
*7. 1 bucket-----	1 00
*8. 2 pitchers at \$1.00-----	2 00
*9. 1 granite iron bed-pan-----	1 65
*10. 1 3-quart fountain syringe-----	1 50
*11. 1 glass nozzle -----	25
*12. 2 empty bottles (for boric acid solution)-----	10
13. 1 ounce boric acid -----	05
14. 6 ounces lysol-----	50
15. 2 ounces castor oil-----	10
16. 20 yards cheesecloth, boil, then cut into 18-inch squares-----	1 20
17. 2 packages nonabsorbent cotton-----	40
	\$11 00

\*Boil and wrap in pillow cases.

**Outfit for Baby.**

1. Four shirts, silk and wool, or silk (2 of second size and 2 of third size) --	\$2 00
2. 3 bands, with straps over shoulders, unless Ruben's shirts are used	1 15
3. 3 or 5 flannel slips, with or without sleeves (Gertrude pattern—Butterick's)	3 50
4. 4 flannelette night gowns	1 20
5. 6 white slips	3 00
6. Diapers, 5 doz.; 2 doz. bird's eye, 24-inch, made double width; 2 doz. cheesecloth squares; 1 doz. Canton flannel squares	4 00
7. Coat or cap	2 00
8. 2 eiderdown squares for crib blankets	1 50
	<hr/>
	\$18 35

**USE BARLEY—SAVE WHEAT.**

Barley forms one of the main cereal crops in California, and it is one of the most readily available of all wheat substitutes. The following information issued by the United States Department of Agriculture is valuable at the present time. According to the department, barley is grown in large quantities in the United States and it is now being ground into flour, though until lately it was more generally used for other purposes. It is a palatable, wholesome grain which has long been used in infant feeding and, to some extent, for general cookery, and which can now be used in quantity to save wheat. You will find barley flour one of the best of the wheat substitutes. Delicious breads and cakes can be made by using it to replace all or part of the wheat flour.

The use of barley flour for such purposes, though new to most of us, is not new to some people. Not many years ago barley was used more extensively than wheat for bread making in many of the European countries. Let us revive the art of barley cookery, and by so doing, "stretch" our supply of wheat flour so that it may go farther to meet the needs of our Allies. We can easily do this and at the same time serve our families with delicious bread, muffins, biscuit, and pastry.

Hundreds of millions of bushels of barley are raised yearly in the United States. This supply, heretofore, has been used chiefly for stock feed or for malting, but under present conditions the greater part of the crop is being milled into flour, which, since it is both palatable and nutritious, may well be used to meet the increasing demand for wheat substitutes. This flour is now on the market, and it is our patriotic duty to use it to save the wheat flour.

Give barley flour a trial—you will wonder why we did not use it more before the war.

Barley flour does not keep so well as wheat flour, so it is best to buy it in small quantities, even for home consumption.

The recipes which follow have been tested in the experimental kitchen of the Office of Home Economics.

NOTE.—All measures are level.

**HOT BREADS.**

Barley flour is very satisfactory for hot breads.

**Barley Quick Biscuits.**

2 cups barley flour.  
½ teaspoonful salt.

2 tablespoons fat.  
4 teaspoons baking powder.

¾ cup milk.

**Barley Drop Biscuits.**

2 cups barley flour.

4 tablespoons fat.

1 cup milk.

1½ teaspoons salt.

6 teaspoons baking powder.

Baked in a sheet this makes a good shortcake buttered and served with fresh crushed berries or other fruit.

**Barley Waffles.**

2 cups barley flour.

3 teaspoons baking powder.

2 eggs.

1 teaspoon salt.

1½ cups milk.

3 tablespoons melted fat.

Sift the dry ingredients together and add slowly the milk, beaten egg yolk, and melted fat. Fold in stiffly beaten whites. Beat thoroughly and cook in hot, well greased waffle irons.

**Barley Muffins.**

2½ cups barley flour.

2 tablespoons corn sirup.

1 egg.

1 cup milk.

4 teaspoons baking powder.

¼ teaspoon salt.

1 tablespoon fat.

**Barley Spoon Bread.**

1 cup barley flour.

3 tablespoons fat.

2 cups milk.

1 cup hot boiled hominy grits.

1 teaspoon salt.

2 teaspoons baking powder.

2 eggs.

**BARLEY YEAST BREAD.**

If you use your own bread recipe and replace one-fourth of the wheat flour with barley flour, you will be able to make a very good bread. With the present need of saving flour, it will be desirable for the housekeeper to make less yeast bread than usual, as one can not use so large a percentage of wheat substitute in making yeast breads as in quick breads.

**BARLEY PASTRY.**

Very good pie crust can be made with all-barley flour or by using one-half barley and one-half wheat flour. The first recipe is especially good for a one-crust pie.

**Pie Crust I.**

1 cup barley flour.

2½ tablespoons fat.

Cold water.

½ teaspoon salt.

**Pie Crust II.**½ cup barley flour.  
⅛ teaspoon salt.2½ tablespoons fat.  
½ cup white flour.¼ teaspoon baking powder.  
Cold water.

Two crusts.

**CAKES AND COOKIES.**

It is not necessary to go without cake when such delicious products can be made that use no wheat flour and little sugar. In these recipes the housekeeper, if she prefers, can use cream of tartar with baking soda in the usual proportions in place of baking powder.

**Chocolate Cake.**2 cups barley flour.  
½ cup fat.  
½ teaspoon salt.  
2 squares chocolate.½ cup milk.  
4 teaspoons baking powder.  
3 tablespoons brown sugar  
1 cup corn sirup.2 eggs, whites and yolks,  
beaten separately.

1 teaspoon vanilla.

**Sponge Cake.**1½ cups barley flour.  
4 eggs.2 teaspoons baking powder.  
1 tablespoon lemon juice.1½ cups corn sirup.  
¼ teaspoon salt.**Fruit Cake.**2½ cups barley flour.  
½ cup fat.  
3 tablespoons molasses.  
½ cup chopped raisins.½ teaspoon cinnamon.  
½ cup chopped nuts.  
½ cup corn sirup.  
1 teaspoon baking powder.½ teaspoon soda.  
½ teaspoon allspice.  
½ teaspoon cloves.  
½ cup citron.

Bake 1 hour and 10 minutes. Keep moist; very good.

**Gingerbread.**

$\frac{1}{2}$ cups barley flour.	2 teaspoons baking powder.	1 teaspoon cinnamon.
$\frac{1}{2}$ cup molasses.	$\frac{1}{4}$ teaspoon soda.	$\frac{1}{8}$ teaspoon salt.
$\frac{1}{2}$ cup milk.	1 teaspoon ginger.	2 tablespoons fat.

Bake about 30 minutes in moderate oven. Good texture and flavor.

**Hermits.**

2 cups barley flour.	$\frac{1}{4}$ cup chopped raisins.	$\frac{1}{2}$ teaspoon cinnamon.
2 tablespoons fat.	1 teaspoon baking powder.	$\frac{1}{4}$ cup nuts.
1 egg.	$\frac{1}{2}$ cup corn sirup.	1 tablespoon milk.
$\frac{1}{2}$ teaspoon ginger.	$\frac{1}{4}$ teaspoon salt.	

Honey, maple sugar, or maple, beet, apple, or sorghum sirup, which can be made at home, can be used in the same way as corn sirup in the above recipes to save sugar.

**UNITED STATES DEPARTMENT OF AGRICULTURE.**

STATES RELATIONS SERVICE.

**A GUIDE IN BAKING.****HANG IN YOUR KITCHEN.****SAVE WHEAT—USE WHEAT SUBSTITUTES.****Measurements of Substitutes Equal to One Cup of Flour.**

These weights and measures were tested in the Experimental Kitchen of the U. S. Food Administration, Home Conservation Division, and of the U. S. Department of Agriculture, Office of Home Economics.

In substituting for one cup of flour use the following measurements. Each is equal in weight to a cup of flour:

Barley	$1\frac{3}{8}$ cups	Potato flour	$\frac{3}{4}$ cup
Buckwheat	$\frac{7}{8}$ cup	Rice flour	$\frac{7}{8}$ cup
Corn flour	1 cup (scant)	Rolled oats	$1\frac{1}{2}$ cups
Corn meal (coarse)	$\frac{7}{8}$ cup	Rolled oats (ground in meat chopper)	$1\frac{1}{8}$ cups
Corn meal (fine)	1 cup (scant)	Soy-bean flour	$\frac{7}{8}$ cup
Cornstarch	$\frac{3}{4}$ cup	Sweet potato flour	$1\frac{1}{8}$ cups
Peanut flour	1 cup (scant)		

This table will help you to make good griddle cakes, muffins, cakes, cookies, drop biscuits, and nut or raisin bread without using any wheat flour.

You will not need new recipes. Just use the ones your family has always liked, but for each cup of flour use the amount of substitute given in the table. You can change your muffin recipe like this:

*Old Recipe.*

2 cups wheat flour	$1\frac{3}{8}$ cups barley flour
4 teaspoons baking powder	1 cup (scant) corn flour
$\frac{1}{2}$ teaspoon salt	4 teaspoons baking powder
1 tablespoon sugar	$\frac{1}{4}$ teaspoon salt
$\frac{1}{2}$ cup milk	1 tablespoon sugar
1 egg	1 cup milk
1 tablespoon fat	1 egg

*New Recipe.*

1 cup (scant) corn flour	$1\frac{3}{8}$ cups barley flour
4 teaspoons baking powder	1 cup (scant) corn flour
$\frac{1}{4}$ teaspoon salt	4 teaspoons baking powder
1 tablespoon sugar	$\frac{1}{4}$ teaspoon salt
1 cup milk	1 tablespoon sugar
1 egg	1 cup milk
1 tablespoon fat	1 egg

The only difference is the substitution for the wheat flour. Everything else remains the same. You can change all of your recipes in a similar way.

**Good Combinations of Substitutes.**

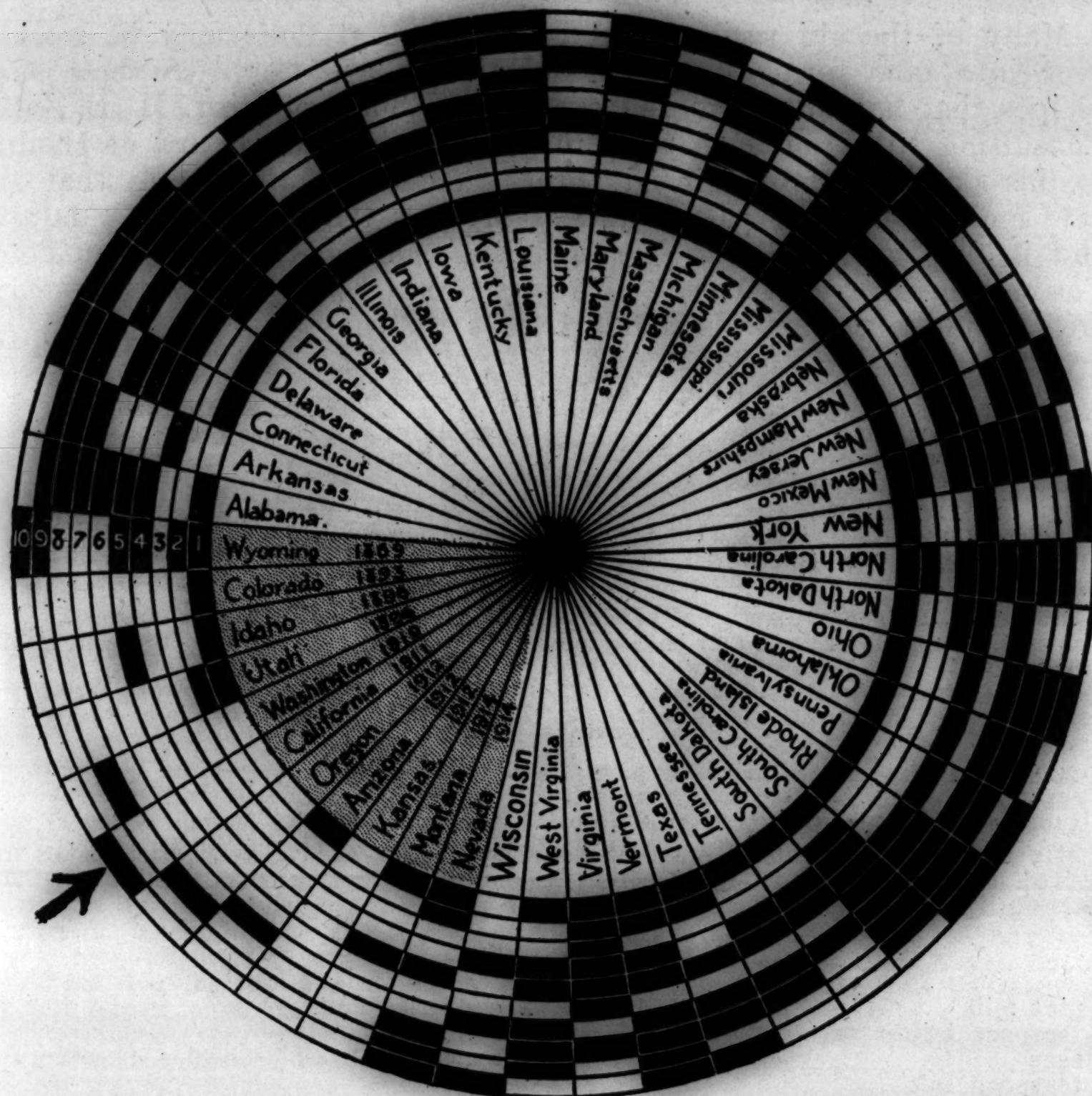
You will get better results if you mix two substitutes than if you use just one alone. Some good combinations are—

Rolled oats (ground)	{	and {	Corn flour
or			Rice flour
Barley flour			or
or			Potato flour
Buckwheat flour			or
or			Sweet potato flour
Peanut flour			or
or			Corn meal
Soy-bean flour			

**Cautions.**

1. All measurements should be accurate. A standard measuring cup is equal to a half pint.
2. The batter often looks too thick, and sometimes too thin, but you will find that if you have measured as given in the table the result will be good after baking.
3. Bake all substitute mixtures more slowly and longer.
4. Drop biscuits are better than the rolled biscuits, when substitutes are used.
5. Pie crusts often do not roll well and have to be patted on to the pan. They do not need chilling before baking.

**IMPORTANT LEGISLATION IN THE UNITED STATES  
AFFECTING WOMEN AND CHILDREN.**



**White spaces indicate good legislation, black spaces poor or no legislation, shaded spaces full suffrage states.**

Circle 1—Industrial Welfare Commission to regulate hours, wages and working conditions of women and children.

Circle 2—Child Labor—14-year limit. Guarded exemptions during vacations are allowed and poverty exemptions when these are neutralized by mothers' pensions laws.

Circle 3—Compulsory education—state wide.

Circle 4—Eight- or nine-hour day for women.

Circle 5—Minimum wage.

Circle 6—Mothers' pensions.

Circle 7—Equal guardianship.

Circle 8—Age of consent, 18 years—chaste or unchaste.

Circle 9—Red light abatement.

Circle 10—Prohibition.

The above chart, taken from *The Woman Citizen*, shows graphically the important legislation in the United States affecting women and children. While none of the legislation referred to deals primarily with the public health, all of the laws referred to have a very important indirect bearing upon the health of women and children. The child labor laws, the regulation of working hours and working conditions, mothers' pension and red light abatement act, all have a great deal to do with the promotion of the public health.

**MAKING OLD RECIPES INTO NEW.  
NO WHEAT FLOUR USED IN THESE RECIPES.**

Many of the old recipes that call for wheat flour may be worked over into new forms in which substitutes are used. Several such recipes that have been worked over in the home of Prof. M. E. Jaffa, Consulting Nutrition Expert of the California State Board of Health, by his daughter, are printed here. Professor Jaffa states that the new recipe for layer cake makes a product that is just as palatable and just as good as is the corresponding cake made from wheat flour. The corn bread recipe, he says, makes a product as delicious as any corn bread made with part wheat flour.

**Recipe for Molasses Cakes.**

$\frac{1}{2}$ cup brown sugar	$1\frac{1}{2}$ to $1\frac{3}{4}$ cups rice flour (measured before sifting)
$\frac{1}{2}$ cup sour cream	2 eggs
$\frac{1}{2}$ cup New Orleans molasses	$1\frac{1}{2}$ teaspoon soda
$\frac{1}{2}$ cup Karo corn syrup	1 teaspoon vanilla
2 tablespoons Crisco (melted)	Pinch of salt
1 cup barley flour (measured before sifting)	Cinnamon

Beat eggs and sugar together. (Dissolve soda in water and add to molasses.) Add molasses, cream, flour, salt and baking powder, Crisco and flavoring. Bake in muffin pans.

**Oatmeal Cakes.**

1 cup sugar	Pinch of salt
2 eggs	2 cups rolled oats
1 tablespoon butter substitute or Crisco	1 teaspoon vanilla

Mix as usual. Let stand one-half hour before baking (if very crisp cakes are desired, do not let stand). Drop by teaspoonful on well greased baking pan and cook until brown.

**Muffins.**

1 pint milk	2 cups rice flour
1 teaspoon butter substitute	1 cup barley flour
3 eggs	2 teaspoons baking powder (heaping)
1 teaspoon salt	

Beat eggs separately; add yolks to milk, then flour, melted butter and salt. Beat well. Then baking powder and whites. Mix well. Bake in quick oven. Little sugar improves the flavor. Bake in muffin pans.

**Layer Cake.**

3 eggs	Pinch of salt
$\frac{1}{2}$ cup sugar	Teaspoon vanilla
$\frac{1}{2}$ cup potato or rice flour, or mix $\frac{1}{2}$ rice, $\frac{1}{2}$ potato, etc.	

Beat eggs separately; add sugar gradually to yolks, and 2 teaspoons water. Then add flour, and white separately; then vanilla. Bake in layers in hot oven.

**Corn Bread.**

1 pint sour milk	3 eggs
2 cups cornmeal	2 tablespoons butter substitutes
1 teaspoon salt	1 teaspoon soda

Beat eggs till light (together), add sour milk, then meal; beat well. Dissolve the soda in 2 tablespoons boiling water; add this, then the butter substitute and salt. Mix thoroughly. Bake in shallow pans, in moderate oven, 30 minutes. A little sugar improves the flavor.

NOTE.—Egyptian corn flour may be substituted for rice flour.

## DIET FOR CHILDREN—GENERAL DIRECTIONS.

From "Practical Dietary for Young Children," by Mariana Bertola, M.D., Florence Holsclaw, M.D., and Mary B. Vail, B.S.

The baby is accustomed to milk, its digestive mechanism can not grapple suddenly with coarse, bulky food, so food must be added gradually to the dietary.

Milk should be the principal article of food up to two years, and should form a part of each meal up to ten years.

*Cereals*—Oatmeal should cook from two to three hours. Other cereals should cook one hour. Milk should be poured over the cereal. A very little sugar should be used.

*Bread*—All bread should be at least two days old. Zwiebach, graham crackers or milk toast may be given. Hot bread or biscuits, griddle cakes and muffins should not be given.

*Eggs*—Eggs should be soft boiled, poached, coddled or soft scrambled; never fried.

*Meats*—Should be roasted or broiled. It should be well minced if cooked; scraped when raw for a young child. Bacon is excellent.

*Vegetables*—All vegetables must be put into boiling salt water and well cooked. The coarser ones should be put through a puree sieve, or well mashed. Some vegetable should be eaten every day.

*Fruits*—Should be given daily. Use good ripe fruit only. Mashed pulp of peaches or pears may be used in the second and third year. Bananas should never be given except in souffle or baked desserts.

*Desserts*—Should be composed mainly of fruit. Puddings of rice, semolina, bread, tapioca or cornstarch, combined with fruit, may be given. Ice cream, plain cake. Some raw fruit *daily*.

*Drinking Water*—The water should be cool, pure drinking water, *not ice water*. If you doubt the purity of the water boil it for ten minutes, put it into a covered pitcher. Keep it in a cool place. The child should drink plenty of water between meals.

*Children Should Not Eat*—Dried and salted meats or fish or pork, corned beef, kidney, liver, duck, goose, fried meats or fried vegetables, green corn, cabbage, cucumbers, pastries, cheese, doughnuts, salads, syrups, tea, coffee, beer, wine, liquor, pickles, green bananas, cider, soda water, any spoiled or green fruit.

*Sleep*—Until about two months old the child should sleep about twenty hours out of the twenty-four. During the first year it should average sixteen hours of sleep. During the second year it should average fourteen hours of sleep. The sleeping room should be quiet, with plenty of fresh air. If the child is asleep in its buggy, out of doors, see that the sun does not shine in its eyes, and that the buggy is well secured. Do not expect a child to sleep well in a noisy room. Do not take children into crowded rooms, theaters, movies, etc. Children grow best at home, and are not so likely to catch disease as in crowds.

## THE GREAT DUTY.

As we go about our daily tasks in peace and safety men are dying every minute on the battlefields of Europe to save civilization. Our own gallant soldiers are shedding their blood in France and our sailors engulfed in the waters of the Atlantic as they go in defense of America's rights and honor.

Upon our performance of the work committed to us depend the lives of thousands of men and women, the fate of many nations, the preservation of civilization and humanity itself and the more efficient and prompt we people of America are in doing our part, the more quickly will this war come to an end, and the greater the number of our soldiers and sailors who will be saved from death and suffering, and the greater number of the people of other nations released from bondage and saved from death.

To work, to save, to economize, to give financial support to the government is a duty of the nation and to the world, and it is especially a duty to our fighting men who on land and sea are offering their lives for their country and their countrymen.

## MAY MEETING OF THE CALIFORNIA STATE BOARD OF HEALTH.

The State Board of Health met in Sacramento on May 4, 1918, the following members being present: Dr. George E. Ebright, president; Dr. F. F. Gundrum, vice president, Dr. Edward F. Glaser, Dr. Adelaide Brown, and Dr. W. H. Kellogg, secretary.

Acting upon the statement of the health officer at San Francisco, Dr. W. H. Hassler, that \$5,000 has been appropriated for the maintenance of an additional ward in the San Francisco Hospital, such ward to be devoted to the care of the tuberculous, and because of the resolution of the San Francisco Board of Supervisors providing for the appointment of a committee to select a site for an out-of-town sanatorium, to be erected at a cost of \$50,000, the tuberculosis subsidy, which was withdrawn from the San Francisco Tuberculosis Hospital March 2, was temporarily restored until July 1. At that time the board will again consider the continuance of this subsidy, such action to be based upon further activities of the San Francisco authorities toward the provision of a sufficient number of beds devoted to the care of the tuberculous and the establishment of an out-of-town sanatorium.

The secretary was delegated as a representative of the State Board of Health to attend the Sixteenth Annual Conference of State and Territorial Health Officials, to be held in Washington, D. C., on June 3 and 4.

Upon the recommendation of the Director of the Bureau of Sanitary Engineering, permit was granted to the town of Livermore to continue to dispose of its sewage upon certain lands in the vicinity of the town. A temporary permit was also granted to the city of Lodi to continue to use the existing sewer system and septic tank, discharging effluent into the irrigation ditch of the Woodbridge Canal Company under certain definite conditions. A permit was granted to San Diego County to continue to discharge sewage from the County Tuberculosis Hospital by treatment in Imhoff tank with final disposal by irrigation on a portion of the county farm adjoining.

Upon the recommendation of the Director of the Bureau of Sanitary Engineering, permit was granted to the city of Tracy to continue to furnish water for domestic purposes from its present supply under specific conditions. Upon the recommendation of the Director of the Bureau of Sanitary Engineering, temporary permits were granted to continue the use of sewer wells for the period of six months in Manteca. These permits were granted upon certain definite conditions as specified by the Director of the Bureau of Sanitary Engineering. Temporary permits to operate swimming pools were granted to George A. Cheney, Coronado Tent City; Edward Weit, Wasco, Cal.; J. D. Kenney, Los Angeles; Leota I. Zapp, Fresno; C. W. Gibson, Middletown; J. H. McDougall Company, Salinas, and the city of Tulare.

A permit to operate a cold storage warehouse was granted to the Peoples Ice Corporation of Fresno, upon the recommendation of the Director of the Bureau of Foods and Drugs.

Certificates as registered nurses were granted to three candidates upon the recommendation of the Director of the Bureau of Registration of Nurses. These certificates were granted under the reciprocity provisions of the act.

The report of the Food and Drug Inspection Committee was approved, following which a number of alleged violations of the Food and Drug Act were brought before the board for hearing.

W. H. KELLOGG, M.D.,  
Secretary.

## REPORT OF THE BUREAU OF ADMINISTRATION FOR APRIL, 1918.

W. H. KELLOGG, M.D., Director.

### ACTIVITIES OF THE STATE DISTRICT HEALTH OFFICERS.

#### North Coast District.

ALLEN F. GILLIHAN, M.D., State District Health Officer, Santa Rosa.

Dr. Gillihan during April visited Eureka, Blue Lake, Arcata, Ferndale, Fortuna, as well as many of the rural districts of Humboldt County. The enforcement of the board's regulations for the control of communicable diseases was taken up with the health officer of all of these cities and an effort was made to secure more complete reporting on the part of physicians in Humboldt County. In Mendocino County Dr. Gillihan visited Willits and Ukiah, and he also inspected the rural districts of the county. Dr. Gillihan attended the teachers' institute in Lake County, April 23, where he lectured upon public health, distributing large quantities of health literature. Considerable time was also spent in the rural districts of Lake County in the investigation of sanitary conditions. Dr. Gillihan also attended the California State Conference of Social Agencies held in Santa Barbara, April 16 to 19.

#### Northern District.

HAROLD F. GRAY, Gr.P.H., State District Health Officer, Chico.

During April Mr. Gray visited Willows, where he took up matters with the local health officer involving sewage disposal, control of communicable diseases, birth registration and other important public health matters. He also visited Yuba City, Live Oak, Marysville and Sacramento. Mr. Gray attended the California State Conference of Social Agencies in Santa Barbara, April 16 to 19. He returned to Chico by way of Los Angeles, where with Dr. Nauss he made a study of the methods used in the Los Angeles city and county health offices. Later in the month he visited Biggs, Gridley and Oroville.

#### Central District.

RALPH W. NAUSS, M.D., State District Health Officer, Fresno.

Dr. Nauss addressed the Tulare County Medical Society in Visalia, April 3. The following day he addressed the Merced County Medical Society upon the local health district act. He held several conferences with the city health officer as well as with the county health officer at Fresno, and also with the Fresno County board of supervisors relative to public health matters. He visited Visalia, Exeter, Lindsay and Porterville, where conferences were held with the local health officers. At Terra Bella and at Ducor sewage disposal problems were taken up. Dr. Nauss attended the California State Conference of Social Agencies in Santa Barbara, April 16 to 19, returning to Fresno by way of Los Angeles, where a study was made of methods used in the city and county health offices. Upon his return to his district he visited Selma, Madera, Merced, Modesto, Stockton, Jackson and Sutter Creek.

#### Central Coast District.

ROBERT N. HOYT, S.B., District Health Officer, San Jose.

During April Mr. Hoyt made a number of inspections in Palo Alto and in the vicinity of Camp Fremont. He gave talks relative to the formation of a local health district to the people of Los Altos and Cupertino. He visited Mountain View and other cities of Santa Clara County. Hayward, Berkeley and Oakland were also visited during the month. Mr. Hoyt also made a trip to San Luis Obispo and King City. A typhoid investigation was made at Richmond. Mr. Hoyt also attended the California State Conference of Social Agencies at Santa Barbara, together with the other state district health officers.

**South Coast and Southern Districts.**

**EDWARD A. INGHAM**, State District Health Officer, 210 Union League Building,  
Los Angeles.

Mr. Ingham during April was in charge of both the Southern and South Coast districts. Some of his time was spent in transferring his headquarters from Riverside to Los Angeles. During the month Mr. Ingham investigated an epidemic of diphtheria at Huntington Park in Los Angeles County, where there were twenty-five cases. This outbreak was traced to a dairyman who was a diphtheria carrier. The venereal disease program in Riverside was taken up during the month and work toward the formation of a local health district in Pomona and vicinity was undertaken. Mr. Ingham, with the other district health officers, attended the California State Conference of Social Agencies at Santa Barbara, where he took part in the program of the Child Welfare Section. During the month visits were also made to Rialto, Upland, Ontario, Pomona, Chino and Santa Monica.

**MORBIDITY REPORTS.**

**GUY P. JONES**, Morbidity Statistician.

*Morbidity for April, 1918, by Weeks.*

	Week ending—				Total, April, 1918	April, Total, 1917
	April 6	April 13	April 20	April 27		
Anthrax -----						
Beri-beri -----						2
Cerebrospinal meningitis -----	6	10	7	6	29	11
Chickenpox -----	169	159	136	128	592	721
Cholera, Asiatic -----						
Dengue -----						
Diphtheria -----	59	86	76	62	283	149
Dysentery -----			5		5	1
Erysipelas -----	11	14	14	13	52	52
German measles -----	453	318	214	292	1,277	47
Glanders -----						
Gonococcus infection -----	99	69	65	59	292	161
Hookworm -----	13			13	26	
Leprosy -----		1	1		2	
Malaria -----	5	11	6	6	28	29
Measles -----	918	1,016	775	890	3,599	4,401
Mumps -----	399	298	268	266	1,231	911
Ophthalmia neonatorum -----	1	2			3	1
Paratyphoid -----						
Pellagra -----	1	2	2		5	1
Pneumonia -----	99	72	91	58	320	169
Poliomyelitis -----	3	2		1	6	1
Rabies -----						
Rocky Mountain spotted fever -----						
Scarlet fever -----	62	70	68	85	285	410
Smallpox -----	19	15	17	21	72	24
Syphilis -----	95	43	52	37	227	133
Tetanus -----		1	2	2	5	1
Trachoma -----	4	2		2	8	24
Trichinosis -----						
Tuberculosis -----	175	99	144	145	563	645
Typhus fever -----						
Typhoid fever -----	16	17	14	18	65	53
Whooping cough -----	123	176	183	182	664	531
Yellow fever -----						
<b>Totals</b> -----	<b>2,730</b>	<b>2,483</b>	<b>2,140</b>	<b>2,286</b>	<b>9,639</b>	<b>8,478</b>

### SANITARY INSPECTIONS.

EDWARD T. ROSS, Sanitary Inspector.

The month of April was spent in making sanitary surveys in the region of Camp Fremont.

During the month a survey was made of the city of San Jose. This survey covered the inspection of food supply places, restaurants, ice cream parlors, soft drink stands, creameries, dairies, meat markets, bakeries, hotels, laundries, barber shops, billiard halls and public and private premises. A large number of re-inspections were made in the extra cantonment zone, also in Mayfield, Redwood City and San Mateo. The State Food Sanitation Act and other health laws are being rigidly enforced.

At the time re-inspections were made of food supply places, barber shops, etc., a medical officer from the Division Surgeon's Office at Camp Fremont was present and issued a sanitary certificate to the owners of all establishments in which the state laws had been complied with. This certificate indicates that the establishment is approved by the army authorities and permits men in uniform to patronize the same. As a result of the re-inspections over two hundred sixty certificates were issued. The survey work in Menlo Park, Mayfield, Palo Alto, Redwood City and San Mateo is practically finished and certificates have been issued to the owners of all food supply places, barber shops, etc.

The army authorities, also the local officials and the citizens co-operated in every way possible in the work and excellent results were obtained.

#### Summary of Operations.

Sanitary surveys (cities)-----	1
Number premises inspected-----	264
Number re-inspections made-----	651
Nuisances abated -----	1,082
Food supply places, complying with state laws-----	215
Barber shops, complying with regulations-----	45
Facilities for sterilizing razors, etc., installed-----	51
Facilities for sterilizing glasses installed in restaurants and ice cream parlors-----	86
Washing facilities provided, food supply places-----	215
Metal screened or glass food containers installed-----	340
Doors and windows screened-----	645
New floors installed in food supply places-----	8
New toilets installed in food supply places-----	11
Toilets screened and made fly-tight-----	192
Metal garbage receptacles installed-----	327
Insanitary wooden sinks removed-----	53
Metal sinks installed-----	57
Food delivery wagons enclosed-----	11
Number food supply places entire fronts screened or enclosed with glass-----	12
Closets or lockers provided in food supply places for clothes of employees-----	198
Yards cleaned -----	31

### REPORT OF THE BUREAU OF COMMUNICABLE DISEASES FOR APRIL, 1918.

FRANK L. KELLY, Acting Director.

#### The Spread of Rocky Mountain Spotted Fever.

The bureau made an investigation of two cases of Rocky Mountain spotted fever at Portola, Plumas County. Both of these cases were in children, one three years of age and the other seven. An investigation carried on in 1916 showed the disease to be present in both Modoc and Lassen counties. These two are the first authentic cases reported as contracting the infection outside of Modoc or Lassen and show that the disease is spreading west and south from the original foci. They are also the first infections reported in children. The appearance of the disease in Portola is undoubtedly due to the fact that sheep are brought in from the infected areas in Lassen County and Nevada and loaded for shipment at

Portola. Infected ticks have dropped from these sheep while in Portola, so that now a new infected area has been established. The fact that the disease has not appeared at some intermediate point is probably due to the fact that the sheep range does not run close to any of the other towns.

#### Division of Biological Examinations.

*Summary of Examinations Made in the California State Hygienic Laboratory  
During the Month of April, 1918.*

Condition suspected	Positive	Negative	Inconclusive	Total
<b>Main Laboratory at Berkeley—</b>				
Anthrax		4		4
Diphtheria (diagnosis)	11	73	1 *3	88
Diphtheria (release)	76	250	2 *5	333
Gonococcus infection	13	45	13	71
Malaria		6		6
Meningitis		8		8
Pneumonia	1			1
Rabies	1	6		7
Syphilis (Wassermann test)	52	960	51	1,063
Tuberculosis (sputum examinations)	17	47		64
Trichinosis	1			1
Typhoid (Widal test)	9	21	3	33
Typhoid (excreta)	1	2		3
Miscellaneous				8
				1,690
<b>Northern Branch at Sacramento—</b>				
Diphtheria (diagnosis)	5	22	1	28
Diphtheria (release)	5	12	2	19
Malaria		12		12
Tuberculosis (sputum examinations)	5	17		22
Typhoid (Widal test)		9	1	10
				91
<b>Southern Branch at Los Angeles—</b>				
Diphtheria (diagnosis)	41	155	8	204
Diphtheria (release)	53	50	1 *5	109
Gonococcus infection	3			3
Meningitis	1	4		5
Rabies		1		1
Tuberculosis (sputum examinations)	10	27		37
Typhoid (Widal test)	11	17	2	30
Paratyphoid		4		4
Miscellaneous				15
Water				73
				481
<b>Total number of examinations</b>				2,262

#### Division of Epidemiological Investigations.

*Epidemiological Investigations and Other Special Investigations During April, 1918.*

**Main Laboratory at Berkeley—**

An investigation of epidemic meningitis on S. S. Anyo Maru.  
An investigation of trichinosis at Suisun.

## Division of Preventive Therapeutics.

*Pasteur Treatment for the Prevention of Rabies by the State Hygienic Laboratory  
During the Month of April, 1918.*

	Treatment commenced	Treatment completed
Main Laboratory at Berkeley-----	2	0
Northern Branch at Sacramento-----	0	0
Southern Branch at Los Angeles-----	0	0
Laboratory of Sacramento Board of Health, by deputized bacteriologist -----	0	0
Laboratory of San Francisco Board of Health, by deputized bacteriologist -----	0	0
Laboratory of Los Angeles Board of Health, by deputized bacteriologist -----	2	0
Laboratory of San Diego City Board of Health, by deputized bacteriologist -----	0	0
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist -----	0	0
Laboratory of United States Naval Hospital, Mare Island, by deputized bacteriologist -----	0	0
<b>Totals -----</b>	<b>4</b>	<b>0</b>

*Vaccine for the Prevention of Typhoid Fever Issued by the State Hygienic Laboratory  
During the Month of April, 1918.*

Number of physicians to whom vaccine was sent-----	8
Number of complete treatments sent-----	119

*Ophthalmia Neonatorum Prophylactic Outfits Distributed During the Month of April, 1918.*

Number of outfits, containing two ampoules each, issued-----	314
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## Public Health Instruction.

*Participation in Instruction in Public Health During April, 1918.*

Main Laboratory at Berkeley-----	
Bacteriological instruction outfits sent out-----	1
Bacteriological instruction outfits in use-----	25
Lectures by the Acting Director-----	1

## DIVISION OF PARASITOLOGY.

WILLIAM W. CORT, Ph.D., Consulting Helminthologist.

During the month of April a survey for hookworm was made of some of the gold mines in the Grass Valley region of Nevada County. Over two hundred examinations have already been completed from mines in this region and no hookworm has yet been found. Also in examinations made of samples from some of the copper mines of Shasta County no cases have yet been discovered. Although the examinations are not extensive enough to show that hookworm is not present in these regions, the results are at least very encouraging.

It is planned during the month of May to push the hookworm survey actively in Calaveras and Tuolumne counties and to make as complete an examination of the mines in this region as possible.

*Summary of Examinations Made in the Laboratory of Parasitology of the State Board of Health During the Month of April.*

	Positive	Negative	Inconclusive	Total
Hookworm -----	25	482	0	507
Reexaminations after treatment for hookworm-----	5	1	0	6
<b>Total examinations -----</b>	<b>30</b>	<b>483</b>	<b>0</b>	<b>513</b>

**REPORT OF THE BUREAU OF TUBERCULOSIS FOR  
APRIL, 1918.**

By E. L. M. TATE-THOMPSON, Director.

The report of the ravages of the White Plague among men rejected in the draft in the bureau's files is as follows:

Number of men excluded in the first draft who have reported for second examination, have private physician or visited by nurses-----	786
Of this number, 220 men have private physicians, 156 are under supervision of nurses and field workers.	
Number of men who did not report-----	528
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	1,314
Of this number, nurses report moved away-----	17
Living in country too far to visit-----	8
Letters unclaimed -----	119
No response to letters sent-----	384
Number of men rejected in first draft who have been accepted in second draft -----	12
Number who have died since being rejected-----	7
Number who have left state-----	41
Number found nontuberculous after being rejected-----	70
Rejected men who are in sanatoria-----	23
Number of men rejected in second draft-----	421
Number of California soldiers discharged from service-----	1,175
Number of soldiers from other states discharged from California camps-----	1,036
	<hr/>
Total -----	3,946

If these figures meant subscription for Liberty Bonds or increased membership in the Red Cross, one would be glad to watch the increase, but to read the letters from the families and the men themselves, would be more than one could stand were it not for some of the results of the director's visit East. The West may not yet realize that we are at war: that seems to be the supposition in the East. But the Adjutant General, the Surgeon General's office and the War Risk Insurance Bureau know something concretely what the war has done to California; in creating a tuberculosis problem that no state could be called upon to handle alone. Many conferences were held with the director, and some without. The result was that early in April orders were issued (we feel six months too late to help us, though they will act as a check on a recurrence of our present situation) that no man shall be discharged from camp if he is suffering with tuberculosis, but when his sputum is positive he will be transferred to a government sanatorium instead of being returned to his own community. This the director was told would eliminate the necessity for a change in the transportation order; however, to guard against a recurrence, a rider on the General Military Bill was introduced, "providing that all soldiers discharged on account of physical disability shall be given a warrant for transportation and balance in money equivalent to  $3\frac{1}{2}$  cents per mile to the place from which he enlisted or was drafted." This will give the man his ticket and enough money for meals until he reaches home. The director is convinced, and not without foundation, that very many men have been discharged who were not suffering with tuberculosis. Many of these men are extremely anxious to remain in the service. On the other hand, many of the men are entitled either to compensation or insurance. To simplify matters, a proposal was made to the Provost Marshal's office that the 6,800 men discharged to date from all the cantonments be called again for re-examination before the advisory boards. If the man has not tuberculosis, return him to the National Army; if he has, give him the chance to apply for his insurance and end the criticism and feeling of injustice that the men feel has been done to them. This is being carefully considered by the Provost Marshal's office, but in the meantime, the War Risk Insurance Bureau will allow us to notify all the men discharged to present their claim to the bureau. Already a large number have been placed in various sanatoria in the state at the expense of the War Risk Insurance Bureau. In accordance with the director's recommendation, the subsidized hospitals will be recognized by the War Risk Insurance Bureau, on the same status as private hospitals.

### Work With the Indians.

For some time the Bureau of Tuberculosis and the State Tuberculosis Association have been doing an extremely interesting piece of work with the Indians of Fresno County. The Commissioner of Indian Affairs, following a conference in Washington, has for a period of six months placed money available for a nurse in Fresno, Tulare, Merced, Mariposa and Madera counties, to work among the Indians. This will be done in connection with the helping stations to be built by the San Joaquin Valley Federation of Women's Clubs. We hope to make the experiment successful enough so that the work will be continued.

The situation, as far as California is concerned, looks better than at any time since the draft. We will help the boys with their insurance. Resthaven will be used as one of our semiphilanthropic sanatoria. The Adjutant General's office has been invaluable in assisting us, and the Red Cross chapters that we have had occasion to call upon, have responded at once, so that the California boys are having everything done for them that can be done. If good will and sympathy count, they will be back on the road to health before the year is out.

### Field Worker in Alameda County.

The Tuberculosis Bureau's field worker, loaned to Alameda County, has just completed five months' work with the Alameda Tuberculosis Society. As a result of her work at San Leandro, money has been appropriated by the city council for a nurse for three months.

Mr. Victor Randolph, the special field worker at Camp Kearny, has completed his work at the Base Hospital there, since the new order to detain rather than discharge tuberculous soldiers has been issued.

The director visited many hospitals in the East. The Walter Reid Hospital and the Chicago Municipal Sanatorium were particularly interesting.

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## REPORT OF THE BUREAU OF VENEREAL DISEASES FOR APRIL, 1918.

LEWIS MICHELSON, M.D., Director.

Dr. H. G. Irvine, who for the past six months has been director of the bureau, returned to Minnesota April 9 to take up his duties as director of the new Bureau of Venereal Diseases under the State Board of Health in Minnesota. Dr. Lewis Michelson of San Francisco was appointed to succeed Dr. Irvine.

In an effort to become acquainted with the work of the bureau in various parts of the state, Dr. Michelson, after attending the State Medical Society at Del Monte, visited Sacramento, Bakersfield and Los Angeles.

#### *Educational work.*

The educational lecture work of the bureau may be divided into lectures given to the men in the service of the government and to civilians. The former began in January and during the month of April Dr. S. A. Goldman and Dr. Philip Pierson gave eight lectures to approximately 5,700 men. The bureau has found it necessary to accredit more physicians and to have the Commission on Training Camp Activities approve them in order that the work in the northern part and in the southern part of California at the various camps may be conducted efficiently. The following men, therefore, have signified their willingness to lecture: Drs. Wm. Ophuls, H. E. Alderson, S. A. Goldman, Philip Pierson, Frank Hinman, J. Craig Neel, A. C. Reed and A. H. Zeiler.

Dr. Frank Hinman addressed the students of the University of California Dental School for the bureau on April 25. He illustrated his lecture with slides and some of the pamphlets of the bureau were distributed to the students in order that they might become familiar with the results of these diseases. There were over 300 students present.

Dr. Mary B. Ritter, during the coming month, will lecture in southern California, first in Beaumont and Banning.

Dr. Olga Bridgman of the University of California, together with Dr. Watters of the bureau, has planned an extensive lecture trip. The subjects these two physicians have chosen are: "Mental Deficiency and Its Relation to Venereal Disease," "Venereal Diseases and Their Control as a War Measure." Addresses will be given in Roseville, Auburn, Grass Valley, Nevada City, Marysville, Oroville, Chico, Redding, Red Bluff and Colusa, during the month of June. There will be pamphlets of the bureau distributed and Mr. Gray, District Health Officer, will exhibit for the men and boys the set of placards entitled "Keeping Fit," which the Oregon Social Hygiene Society originated.

At the tenth annual session of the California State Conference of Social Agencies the bureau was represented by Dr. Dickie, who read a paper written by himself and Dr. Irvine on "Social Service as a War Measure," and by Miss Lynne, who read a paper entitled "The General Social Service Plan of the State of California for the Reclamation of Women."

Dr. Michelson attended the annual meeting of the State Medical Society and read a paper on April 16. On the seventeenth of April Dr. Irvine's and Dr. Watters' paper, "Venereal Disease Control in California," was read before the same society.

#### New Measures Adopted for the Control and Treatment of Venereal Disease.

##### *Los Angeles.*

A new detention home to cost approximately \$20,000 for the care of women prostitutes released from Los Feliz is being planned. This place will have facilities for gardening and other agricultural pursuits. There will be psychological and vocational teachers associated with the institution.

##### *Bakersfield.*

At present, patients are being treated at the county hospital and are returned to the jail for official isolation. Plans are under way for using a pavilion now occupied by tuberculosis patients for the treatment of men infected with syphilis or gonorrhœa. A wing will be added to this building which will accommodate women similarly infected. There will be no communication between the two parts of this building. Patients under the jurisdiction of the health officer are now being treated by Dr. Compton and it is hoped that arrangements will shortly be perfected whereby Dr. Compton may give certain hours to the establishment of a clinic for the indigent in Bakersfield infected with venereal disease.

##### *Riverside.*

On April 7 a mass meeting was held in Riverside to interest the people there in carrying out the program of the bureau. A change in the ordinances was effected to enable the officials to efficiently care for those arrested on charges allied to prostitution. The appointment of three policewomen to assist in the work was urged. Dr. Dickie and Miss Lynne of the bureau addressed the meeting. This city is to have a new hospital similar to Los Feliz and Los Angeles which will adequately care for and treat prostitutes infected with venereal disease.

##### *Sacramento.*

Inasmuch as there are many communities in California having a large Mexican population, it has been found necessary to supply patients infected with venereal disease with our pamphlet, "Venereal Diseases," to make the education of these people along these lines more effective. This pamphlet is being translated into Spanish and will be ready for distribution in this form in a short time. In some of the towns in southern California where a large number of Mexicans are living, it is hoped that a clinic will be formed, especially for the care of those infected with syphilis or gonorrhœa.

*Arsenobenzol Distributed by the Bureau During April.*

San Francisco Health Department	80
Los Angeles County Hospital	75
Mission Valley Hospital	36
Kern County Health Officer	30
San Diego County Hospital	25
Santa Barbara Cottage Hospital	12
San Francisco Juvenile Detention Home	12
San Francisco Polyclinic	6
Oakland College of Medicine and Surgery	5
San Bernardino County Hospital	4
Santa Clara County Health Officer	3
Irvington Health Officer	3
Los Feliz Hospital	25
	<hr/>
	316

*Treatment Reports Received.*

124 patients received one dose	124
51 patients received two doses	102
14 patients received three doses	42
10 patients received four doses	40
5 patients received five doses	20
	<hr/>
204	328
Other occupations	100
Prostitutes	71
School children	31
No occupations	2
	<hr/>
Females	126
Males	78
	<hr/>
	204

*Patients Treated.*

Los Angeles Health Department	96
Los Feliz Hospital, County Hospital, Jail Clinic, 737 N. Broadway, Juvenile Hall.	
San Francisco Health Department	28
San Francisco Hospital, Emergency Hospital, Isolation Hospital.	
Kern County Hospital	13
Fresno County Hospital	12
Mission Valley Hospital	12
Stanford University Clinic	9
San Diego County Hospital	7
San Francisco Juvenile Detention Home	7
University of California Hospital	6
Temple Block Clinic, Los Angeles	4
Fresno City Clinic	3
Oakland College of Medicine and Surgery	2
San Francisco Polyclinic	2
Sacramento County Hospital	2
Santa Clara County Health Officer	1
	<hr/>
Total number of treatment cards received	1258
Total number of treatment cards distributed and not returned	818
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Total number of arsenobenzol ampoules distributed	2076

## REPORT OF THE BUREAU OF VITAL STATISTICS.

GEORGE D. LESLIE, Director.

## Births, Deaths and Marriages for March.\*

*State, Totals and Annual Rates.* The following table shows for California as a whole, the birth, death and marriage totals for the current month of the year to date in comparison with corresponding figures for last year, as well as the annual rates per 1,000 population represented by the totals for the current month and the year to date. The rates are based on an estimated midyear population of 3,129,584 for California in 1918 the estimate having been made by the United States Census Bureau method with slight modifications.

*Birth, Death and Marriage Totals, with Annual Rate per 1,000 Population, for Current Month and Year to Date, for California: March.*

Month or period	Total		Annual rate per 1,000 population, 1918
	1918	1917	
<b>March—</b>			
Births -----	4,567	4,345	17.2
Deaths -----	3,923	3,775	14.8
Marriages -----	2,264	2,126	8.5
<b>January to March—</b>			
Births -----	12,938	11,908	16.8
Deaths -----	11,212	11,335	14.5
Marriages -----	7,270	7,862	9.4

The three totals for March, 1918, show an increase of 222, 148 and 148, respectively, over the same month for 1917.

The first quarter for 1918 shows an increase of 1,030 births over the same period for last year, a slight decrease in deaths, and a drop of 600 in marriages.

*Length of Residence.* The length of residence in California for the 3,923 decedents in March was as follows: Under 1 year, 301, or 7.7 per cent; 1 to 9 years, 695, or 17.7 per cent; 10 years and over, 1,753, or 44.7 per cent; life, 1,014, or 25.8 per cent; and unknown, 160, or 4.1 per cent.

For residents of the 70 cities of 2,500 population in 1910, there were 90 births and 144 deaths which occurred in registration districts other than the city of residence.

*County Marriage Totals.* The counties showing the highest marriage totals for the month were as follows: Los Angeles, 513; San Francisco, 420; Alameda, 223; San Diego, 161; Sacramento, 86; Santa Clara, 86; Orange, 81; Fresno, 66; San Joaquin, 53; San Bernardino, 47; Kern, 44; San Mateo, 43; Marin, 40; and Sonoma, 37. The aggregate for San Francisco and other bay counties is 739, against 594 for Los Angeles and Orange counties together.

*County Birth and Death Totals.* Exclusive of stillbirths in both cases, the birth and death totals for the month were as follows for the leading counties, arranged in decreasing order of birth registration:

County	Births	Deaths	County	Births	Deaths
Los Angeles -----	1,076	986	Orange -----	113	73
San Francisco -----	672	739	San Bernardino -----	94	96
Alameda -----	465	435	Kern -----	87	62
Fresno -----	233	105	Tulare -----	81	38
San Diego -----	157	160	Stanislaus -----	77	32
Santa Clara -----	150	144	Santa Barbara -----	70	40
Sacramento -----	123	112	Contra Costa -----	61	43
San Joaquin -----	117	127	Imperial -----	60	47

\*The present report is for the month preceding but two. This order must be followed because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the next preceding month is completed.

*City Birth and Death Totals.* Birth and death totals, exclusive of stillbirths, are presented similarly for the principal California cities below:

City	Births	Deaths	City	Births	Deaths
Los Angeles -----	707	642	San Jose -----	63	46
San Francisco -----	672	739	Long Beach -----	60	48
Oakland -----	297	264	Bakersfield -----	42	32
San Diego -----	124	117	Pasadena -----	42	41
Sacramento -----	95	92	Riverside -----	39	23
Fresno -----	93	39	Santa Barbara -----	38	21
Berkeley -----	81	46	San Bernardino -----	37	36
Stockton -----	67	82	Alameda -----	32	35

*Causes of Death.* The following table shows the classification of deaths in California for the current month, in comparison with the preceding month:

*Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths for Current and Preceding Month, for California: March.*

Cause of death	Deaths: March	Proportion per 1,000	
		March	February
All causes -----	3,923	-----	-----
Typhoid fever -----	13	3.3	5.1
Malarial fever -----	3	0.8	0.3
Smallpox -----			0.5
Measles -----	26	6.6	6.8
Scarlet fever -----	6	1.5	2.2
Whooping cough -----	25	6.4	7.8
Diphtheria and croup -----	20	5.1	5.1
Influenza -----	20	5.1	5.8
Other epidemic diseases -----	15	3.8	2.5
Tuberculosis of lungs -----	498	126.9	116.4
Tuberculosis of other organs -----	70	17.8	14.7
Cancer -----	265	67.6	72.3
Syphilis -----	34	8.7	7.2
Other general diseases -----	128	32.6	35.9
Meningitis -----	34	8.7	10.6
Other diseases of nervous system -----	351	89.5	88.7
Diseases of circulatory system -----	590	150.4	154.5
Pneumonia and broncho-pneumonia -----	492	125.4	115.4
Other diseases of respiratory system -----	104	26.5	31.7
Diarrhea and enteritis, under 2 years -----	30	7.6	12.8
Diarrhea and enteritis, 2 years and over -----	26	6.6	5.3
Other diseases of digestive system -----	226	57.6	54.2
Bright's disease and nephritis -----	328	83.6	94.2
Childbirth -----	43	11.0	6.7
Diseases of early infancy -----	131	33.4	37.2
Suicide -----	72	18.4	10.5
Other violence -----	246	62.7	67.8
All other causes -----	127	32.4	27.8

In March there were 596 deaths, or 15.3 per cent of all, from diseases of the respiratory system (includes 492 deaths from pneumonia and broncho pneumonia); 590, or 15.0 per cent from diseases of the circulatory system; and 568, or 14.7 per cent from the various forms of tuberculosis. The greatest number of deaths was caused by diseases of the respiratory system. Other notable causes of death for the month were as follows: Diseases of the nervous system, 351; Bright's disease and nephritis, 328; violence (suicide, accidents, etc.), 318; and epidemic diseases, 128.

The deaths from the four leading epidemic diseases reported for the month were distributed by counties as follows:

Measles.	Whooping Cough.	Diphtheria and Croup.	Typhoid Fever.
Alameda ----- 2	Alameda ----- 6	Alameda ----- 2	Glenn -----
Imperial ----- 1	Fresno ----- 1	Humboldt ----- 1	Humboldt -----
Kings ----- 1	Humboldt ----- 1	Kings ----- 2	Los Angeles-----
Lake ----- 1	Kern ----- 2	Los Angeles----- 6	Riverside -----
Los Angeles -- 3	Los Angeles--- 2	Monterey ----- 1	San Francisco-----
Merced ----- 1	Riverside ----- 1	San Diego----- 1	Shasta -----
San Bernardino 3	Sacramento --- 2	San Francisco - 1	Sonoma -----
San Diego ----- 5	San Francisco - 5	San Joaquin--- 2	Ventura -----
San Francisco - 3	San Joaquin--- 2	San Mateo ----- 1	
San Joaquin--- 3	San Mateo ----- 2	Santa Clara -- 1	
Siskiyou ----- 1	Santa Clara--- 1	Tulare ----- 2	
Solano ----- 1			
Tulare ----- 1			
	25		20
			13

26

*Sex, Race and Nativity.* The proportion of the sexes among the 3,923 decedents in March was: Male, 2,446, or 62.4 per cent of all; and female, 1,477, or 37.6 per cent.

The race distribution of decedents was: White, 3,694, or 94.2 per cent; Japanese, 77; Chinese, 68; Negro, 65; and Indian, 19.

The 3,923 white decedents were classified by nativity as follows: California, 933, or 25.2 per cent; other states, 1,508, or 40.8 per cent; foreign, 1,162, or 31.5 per cent; and unknown, 91, or 2.5 per cent.

*Infant Mortality.* There were 331 deaths for children under 1 year, which were distributed by age in months as follows: Under 1 month, 147, or 44.4 per cent; 1 to 2 months, 67, or 20.2 per cent; 3 to 5 months, 44, or 13.3 per cent; and 6 to 11 months, 73, or 22.1 per cent.

In certain cities the deaths under 1 year were as follows: Los Angeles, 49; San Francisco, 49; and Oakland, 28.

The 331 deaths under 1 year, in comparison with the 4,567 live births reported for the month, show an infant mortality ratio of 72 per 1,000.

## REPORT OF THE BUREAU OF SANITARY ENGINEERING FOR APRIL, 1918.

By C. G. GILLESPIE, C.E., Director.

During the month of April the main work of the bureau dealt with the "tuning up" of the new activated sludge plant at Folsom Prison, stream pollution survey of the Truckee River, inspection of chlorination of several of the Sierra foothill water supplies, sanitary surveys of the communities bordering on the south arm of San Francisco Bay and continuation of research work on certain species of *B. coli* aerobic spore formers recently found in several of the supplies of the state.

The activated sludge plant at Folsom Prison is now giving excellent clarification, but great difficulties are encountered in choking of the holes in the perforated pipe, the air lifts for sludge and the 1½-inch sludge pump, due to paper and stringy material contained in this fresh institutional sewage. The sewage is screened through a half-inch bar screen, but apparently a mesh or slot screen is necessary to hold back material which slips between the grates of a bar screen.

Inspection and sampling of the chlorination plants of the Pacific Gas and Electric Company at Loomis, Newcastle, Auburn and Colfax showed that only one plant of the four was in commission, due primarily to too little interest by the operator and to need of cleaning of the machines and replacement of defective parts. The company has been requested to detail a competent mechanic to overhaul all the machines, to replace worn parts, to provide scales for weighing the cylinder, to keep a record of operation and to submit samples to the State Board of Health at monthly intervals.

The results of inspections on the Truckee River and the shores of San Francisco Bay are detailed in the reports of inspections.

**SEWAGE DISPOSAL.****Applications for Permits Filed.**

*Alameda.* To use existing sewers.

*Colfax.* To continue the use of present Imhoff tank and sewer farm.

*Colusa.* To use the present sewerage system with outlet into Powell Slough, two and one-half miles from city limits.

*Concord.* To use existing sewer system and septic tank.

*Daly City.* To continue to use present sewer system, discharging into Pacific Ocean and San Francisco Bay, and to extend laterals, as necessary.

*Fairfield.* To use present sewer system, discharging through one mile of redwood box through marsh land to tide water of Suisun Slough.

*Fort Bragg.* To continue to use present system and make extensions from time to time, discharging into Pacific Ocean at low water.

*Gilroy.* To use existing works, septic tank and filter beds.

*Gridley.* To use, operate and extend the existing sewerage works; the sewage is passed through a series of septic tanks, then pumped through 2,000 feet of pipe into a settling basin, and from there siphoned into a third basin or pond, about one acre in extent.

*Hemet.* To operate the existing sewerage works, septic tank and sewer farm.

*Imperial.* To use existing works and the outfall system serving El Centro and Imperial, leading to Imhoff tank on bank of New River, and discharging into New River.

*Lakeport.* To continue use of present septic tanks, discharging into Clear Lake.

*Merced.* To use present sewer system and sewer farm situated in El Capitan Colony.

*Monterey.* To use present system, with septic tanks discharging effluent into Monterey Bay; also to discharge the sewage of Oak Grove and New Monterey into Monterey Bay without treatment.

*Oroville.* To continue the use of a three-compartment septic tank, discharging the effluent into the Feather River.

*Petaluma.* To continue to use existing system, discharging into Petaluma River. There are 16 street sewers discharging into this river and three discharging into McNear Basin and its canal, which connect with Petaluma River. The sewage also contains tannery, silk mill and vinegar factory wastes.

*San Francisco.* To continue to discharge sewage into the Pacific Ocean and bay of San Francisco and make necessary extensions to existing system.

*Manteca, G. H. Koster.* To operate a sewer well on lot 1 in block 2. The well is 36 feet deep and was bored in January, 1918.

*Arcata.* To use existing sewer system.

*Burlingame.* To operate and maintain its present sewerage system, with outlet into San Francisco Bay Estuary.

*Sunnyvale.* To continue the operation of the present system, with discharge into Indigo Slough.

*Emeryville.* To use the present sewer system, discharging through seven outlets into San Francisco Bay.

*Manteca, E. D. Wells.* To operate a sewer well, to serve the Wells Building.

*Santa Monica.* To continue use of present sewerage system, including electrolytic treatment of the sewage.

*San Diego County Tuberculosis Hospital.* To construct and maintain Imhoff tank and irrigation system.

*Colton.* To operate the existing sewer system, using the sewage to irrigate private lands.

*Mayfield.* To use the existing sewer system.

*Visalia.* To operate the present sewer system and sewer farm of 160 acres; surplus sewage disposed of on a sand area.

### Permits Granted.

*Manteca, G. H. Koster, Keppel Bros., E. D. Wells, Joshua Cowell and J. E. McCabe.* Permit was granted to each of these parties to use his sewer well or wells for a period of six months, the permit to be renewed for another period of six months if the town is incorporated and has taken definite action toward the construction of a sewer system, on the following conditions:

1. Water wells in private or public use shall not become contaminated.
2. Sewer well overflows shall under no circumstances be permitted where toilets or urinals are connected to the sewer. Sewer wells shall be cleaned into water-tight tank wagons with sufficient frequency to prevent overflow, or toilets and urinals shall be disconnected from the system and sanitary privies or chemical toilets substituted.
3. There shall be no extension of depth of sewer well or installation of additional sewer wells without the specific approval of the State Board of Health.

*Livermore.* Permit was granted to the town of Livermore to continue to dispose of its sewage onto the lands of G. L. Monahan, in accordance with its contractual agreement.

*Lodi.* Permit was granted to continue to use the existing sewer system and septic tank, discharging the effluent into the irrigation ditch of the Woodbridge Canal Company.

*San Diego County.* Permit was granted to San Diego County for the disposal of sewage from County Tuberculosis Hospital by treatment in an Imhoff tank, the effluent to be used for irrigating a portion of the county farm adjoining.

### Plans Filed.

*Petaluma.* Map of outfall sewers.

*Mills, Sacramento County.* Plans of proposed sewage disposal for Mather Field.

*San Diego County.* Plans for Imhoff tank at San Diego County Tuberculosis Hospital.

### Investigations, Inspections, Reports and Conferences.

*Repressa, State Prison at Folsom.* April 2-6, 9-12, 22 and 26. Tuning up activated sludge plant (see introduction).

*Truckee.* April 23 and 24. Investigation of feasible sites for sewage treatment.

*Hobart Mills.* April 24. Investigation of feasible sites for sewage treatment.

*Colton.* April 25. A 12-inch pipe line, 900 feet long, has been laid to replace a wooden flume which formerly carried the sewage across Santa Ana River to the sewer farm. A screen and a grit chamber have also been provided to remove material that might clog this pipe.

*Stockton.* April 17. Conference regarding approval of plans for Imhoff tanks or Reinsch-Wurl screens.

*Kern County Tuberculosis Hospital.* A new hospital is to be established at Keene, in the mountains 30 miles east of Bakersfield. Sewage will be disposed of by partially clarifying in septic tank and discharging effluent into large cesspool. This means of disposal was used for over two years by a construction camp here, which demonstrated its success.

*Pittsburg.* April 3. City is divided into three districts, the outfall of each of which empties into the San Joaquin River. The sewage of the easterly district is settled in a small Castner septic tank. Conditions at outfall of septic tank, poor.

*Santa Clara.* April 6. Town is completely sewered. At present there are about 150 houses not yet connected. Sewage is delivered through 14-inch pipe to a pump pit; sewage automatically pumped from this pit to a septic tank. Effluent from tank formerly passed through antiquated filter beds of graded gravel. Due to clogging, these filters have not been used for three or four years. At present effluent flows along a ditch a mile and one-half long to a farm, where it is used for irrigating alfalfa. Septic tank badly in need of cleaning.

*Sunnyvale.* April 10. Sewage from this town flows through 16-inch outfall for a distance of two miles to a slough of San Francisco Bay.

*Mountain View.* April 12. Practically all the town is sewered. Sewage is delivered through outfall sewer to septic tank of 41,000 gallons capacity. Effluent

from the tank flows through a pipe two miles to slough of San Francisco Bay. At time of inspection the sewage was being by-passed around septic tank. Slough at point of outfall of sewage in good condition.

*Mayfield.* April 13. The town is completely sewerized. Outfall consists of two miles of 12-inch tile pipe and 800 feet of 12-inch wood-stave pipe. Outfall delivers to slough of San Francisco Bay; conditions at end of outfall, good.

*Palo Alto.* April 13. Town is completely sewerized. Outfall is through 12-inch wood-stave pipe to slough of San Francisco Bay. At time of inspection conditions at outfall were not good.

*Lakeport.* April 24. Only about 27 houses are connected with sewer. Fifteen houses connected with one sewer and twelve with another. Each sewer empties into a septic tank; the effluent from the septic tanks drains directly into Clear Lake. Conditions at outfall were good, the effluent being very clear.

*Ukiah.* April 29. Meeting of the townspeople was held to create interest in proposed \$10,000-bond issue with which to build Imhoff tank recommended by this department. Recent advices are that the bonds carried ten to one.

## WATER SUPPLIES.

### Applications for Permit Filed.

*Anaheim.* To continue to use two deep wells to supply water to Anaheim and vicinity.

*Colusa.* To continue to use two tubular wells, 12 inches in diameter and 325 feet deep.

*Corona, Corona City Water Company.* To continue to supply water to the residents of Corona through lines constructed from Temescal, ten miles south of Corona; the water is pumped from deep wells during the summer and from Cold-water Canyon during the winter.

*Daly City.* To continue to use two deep wells and an auxiliary supply furnished by the Spring Valley Water Company of San Francisco; also to add to present supply by drilling more wells when needed.

*Fort Bragg.* To use existing supply derived from wells and reservoir in Newman's Gulch and springs.

*Fresno, Fresno City Water Company.* To continue to serve the city of Fresno and additions thereto, from deep wells.

*Gilroy.* To continue to supply water to the city of Gilroy, derived by gravity flow from Uras Creek and from wells in summer.

*Glendora.* To use present supply, derived from deep well, and to make necessary additions and repairs in the system as they become necessary.

*Gridley.* To use, operate and maintain its present domestic water supply system. The source of supply consists of two wells 200 feet deep, the surface water being shut off.

*Gustine.* To furnish water to the people of Gustine City and to extend water mains when necessary.

*Imperial.* To continue to operate the existing water works and water system now in use in the city of Imperial. The supply is derived by means of open ditches from the Colorado River near Yuma, taking the water direct from the Dahlia ditch; it is then conveyed by pipe line to settling basins, thence pumped to a 100,000-gallon tank.

*Lakeport.* To supply water from dug wells in Scotts Creek.

*Livermore, Pacific Gas and Electric Company.* To use its existing water works and system in and adjacent to the town of Livermore. The system consists of two pumping stations at Los Positas Springs, a gravity system on the Arroyo Mocho, and reservoir about a mile west of Los Positas Pumping plant.

*Montague.* To continue to supply water from a 870-foot well; the water is pumped into a covered reservoir of 300,000 gallons capacity.

*Sebastopol.* To continue to supply water from a sump well 30 feet deep and 18 feet in diameter, in the bottom of which are two wells, one 30 feet deep and the other 400 feet deep; the water is pumped to a cement reservoir of 500,000 gallons capacity.

*Stockton, Pacific Gas and Electric Company.* To use its existing water works and system in and adjacent to the city of Stockton. The system consists of three pumping stations, deriving water from 28 wells.

*Willits, Willits Water and Power Company.* To supply water for domestic and manufacturing purposes, derived from James Creek. A circular concrete reservoir of 18,500 gallons capacity, located one and one-half miles south of Willits, is used to break the pressure.

*Burlingame.* To continue to supply water to the inhabitants of Burlingame and neighboring localities from wells.

*La Verne.* To use existing water works, pumping water from one deep well.

*Sunnyvale.* To continue the operation of the municipal water plant.

*Ventura, Southern California Edison Company.* To supply water to the city of Ventura from Ventura River and wells.

*Paso Robles.* To supply water from wells.

*Colton.* To use existing works consisting of wells, pumping plants and distributing system.

*Mayfield.* To continue to supply water to the inhabitants of Mayfield from deep wells.

#### Permits Granted.

*Tracy.* Permit was granted to the city of Tracy to continue to furnish water for domestic purposes from its present supply, on condition that no further additions or alterations be made in the wells or source of supply unless approved by the State Board of Health.

#### Plans Filed—None.

#### Investigations, Inspections, Reports and Conferences.

*Hayward Heath.* April 20. On February 15, 1918, chlorination of the grossly contaminated surface water supply at Hayward Heath was demanded. This bureau, on April 1, 1918, was asked to design and start in operation a hypochlorite treatment plant. The apparatus as installed includes two solution barrels, an orifice box with orifice, and a water seal box. A dose of 0.5 parts per million of available chlorine, determined necessary by a laboratory experiment, is administered to the supply at the suction side of the main pump.

*Auburn, Colfax, Newcastle, Loomis: Pacific Gas and Electric Company.* April 20 and 24. Supplies are ditch water, subject to sporadic contamination. Chlorination is provided. Inspection shows that, except at Colfax, no results are being obtained.

*Roseville, Roseville Water Company.* April 24. Supply is ditch water treated with bleaching powder as solution, at upper of two service reservoirs, three miles from town. Analyses indicate no dependence can be placed on the operation of the plant.

*Kern County Hospital.* April 13. The new hospital at Kern is to be provided with spring water from marsh land in a nearby canyon.

*Santa Clara.* April 6. Supply consists of seven bored wells, depth from 220 to 325 feet. Water is pumped from these wells to 70,000-gallon cistern; pumped from cistern to 100,000-gallon steel tank, elevation 90 feet. Consumption about 900,000 gallons per day. Quality of water, good.

*San Jose.* April 5, 10 and 11. Inspection of all sources of supply, consisting of wells in San Jose and streams and springs in the Santa Cruz Mountains.

*Sunnyvale.* April 10. Supply is from two bored wells 200 and 360 feet deep; water is pumped from wells to an iron standpipe, capacity 250,000 gallons. Pumping from wells to standpipe is automatic. Quality of water, good.

*Mountain View.* April 12. Supply is from three bored wells 195 to 304 feet deep. Water is pumped from wells to 100,000-gallon steel reservoir. Consumption is 300,000 gallons per day. One well shows slight contamination.

*Mayfield.* April 13. Water is taken from three bored wells 212 feet deep. Water is pumped from wells to small reservoir of 60,000 gallons capacity, from which it is pumped to a 154,000-gallon concrete reservoir at an elevation of 100 feet. Consumption, about 3,000,000 gallons per day. Quality of water, good.

*Palo Alto.* April 13. Water is obtained from four wells about 200 feet deep, three of which are in the southeastern part of the town at municipal power plant and one in the western part near the railroad station. Water from the wells at the power plant is pumped into service reservoir, from which it is pumped into the mains. Water from the other well is pumped directly into a 155,000-gallon concrete tower. Quality of water, good, although hard.

*Lakeport.* April 24. Water is pumped from a caisson buried in the gravels of the creek near town. The caisson is 16 feet below the surface of the stream and is covered with gravel. The creek water filters through the gravel into this caisson. The water is pumped to a 395,000-gallon tank at an elevation of 235 feet above the main street. Quality of water, at times shows contamination.

### SWIMMING POOLS.

#### Applications for Permit Filed.

*Castle Hot Springs, Middletown, Mr. C. W. Gibson.* To operate Castle Hot Springs.

*Coronado Tent City, Mr. Geo. A. Cheney.* To operate Coronado Tent City Baths.

*Fresno, Leola I. Zapp.* To operate Zapp's Park Baths.

*Riverside, J. D. Kenney.* To operate Elliotta Plunge Baths.

*Salinas, J. H. McDougall Co.* To operate Pacific Grove Baths.

*Tulare.* To operate Municipal Baths.

*Wasco, Kern County, Mr. Edward Weit.* To operate Weit's Cottage Plunge.

#### Temporary Permits Granted.

Pending investigation, temporary permits have been granted to operate the above named pools.

#### Plans Filed.

*San Francisco, Young Women's Christian Association.* Plans for new pool.

#### Inspections.

*Los Angeles, Boy Scouts' Camp.* April 29. The bureau has been asked to assist in design of swimming pool at Boy Scouts' Camp near Los Angeles. The plant will probably include a filter for periodically cleaning the pool water, together with disinfection.

*Oakland, Idora Park.* April 21 to 28. An investigation of the freshwater, outdoor swimming pool at Idora Park has been started. Samples for bacterial analysis are collected from various parts and depths of the pool several times a day and turbidities read to determine the effectiveness of the treatment, which consists of filtration in a gravity filter with the use of alum and liquid chlorine, also the biological conditions of the swimming pool. The arrangement of the inlet and the outlet of the pool appears inadequate to provide complete circulation. There is a mild growth of algae, with *Scenedesmus* predominating. Water insects, including Water Boatmen and Water Nymphs, are numerous. Mosquitoes breed abundantly in the pool but are drowned before maturing. Experiments have not yet been concluded.

*Alameda, Neptune Beach.* April 16. An inspection was made of the salt water outdoor swimming tank at Neptune Beach. Water is taken from San Francisco Bay. Bacteriological examination indicates this water to be grossly contaminated. It appears that the tank is kept scrupulously clean, as it is emptied and washed out twice or three times weekly. Copper sulphate and rock alum treatment, daily, seems to be effective in reducing initial contamination. Recirculation appears to be complete. Scum gutters are inadequate. The management propose adding more scum outlets and have made arrangement for chlorination. This bureau has been asked to assist in determining the proper chlorine manipulation when chlorinator is installed.

## LABORATORY REPORT.

## Berkeley Office:

Bacteriological examination of water-----	324
Bacteriological examination of sewage-----	1
Chemical examinations of water (partial)-----	1
Sanitary chemical examination of water-----	329

## Los Angeles Office:

Bacteriological examinations of water-----	77
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Some Observations on Tests for *B. Coli*.

The Bureau of Sanitary Engineering is doing its utmost in encouraging the establishing of laboratories at water plants throughout the state. Assistance is given in the arrangement, equipment and technique to be used for such laboratories. In many cases the bacteriological work is done by laymen and consequently the technique for the demonstration of *B. coli* in water supplies must be simple, with a fair degree of accuracy. With this point in view, a comparison of the different steps in the demonstration of *B. coli* seems timely, especially on waters in California.

Since the existence of this laboratory, September, 1915, the method for the isolation of *B. coli* in water samples has been that described in Standard Methods of Water Analysis as the "partially confirmed test," and consists of fermentation and enrichment in lactose broth and streaking on litmus lactose agar plates from broth tubes showing gas. The *B. coli* group is considered present when typical colon-like colonies develop on the litmus lactose agar plates. This method is similar to but in one particular differs from the procedure adopted by the Treasury Department on October 21, 1914, for drinking water supplied to the public by common carriers in interstate commerce. The latter procedure involves an additional step over that used in this laboratory, namely: fishing and transplanting of a colon-like colony from the lactose litmus agar plates into a lactose broth tube, to confirm the gas-forming property.

A comparison of the two methods on a large number of water samples from various sources shows the following results:

Comparison of *B. Coli* Tests.

	24 hours	48 hours
Presumptive test—		
Total number -----	382	782
Partially confirmed test—		
Typical colon-like colonies-----	97.1%	76.1%
Treasury Department method—		
Fermentation of typical colon-like colonies-----	97 %	73.4%

Observations were made on the presumptive test after 24 hours and 48 hours. One of the striking features of this comparison is the small number of samples showing *B. coli* after but 24-hour incubation and the large number of 24-hour presumptive tests which on subsequent confirmation gave positive *B. coli* by the Treasury Department Method, and by the method used in the laboratory of the Bureau of Sanitary Engineering, 97 and 97.1 per cent, respectively. Of the 48-hour presumptive tests, however, only 73.4 per cent were confirmed by the Treasury Department Method and 76.1 per cent by the method of this bureau. A difference of 2.7 per cent is noted in the two methods. It is doubtful whether this difference is of sufficient importance to justify the extra work involved in obtaining the lower and doubtless more correct percentage. The "partially confirmed test" is on the safe side at any rate.

The latest Standard Methods of Water Analysis published by the American Public Health Association, 1917, defines the *B. coli* group as including all non-spore-forming bacilli, which grow aerobically on solid media and which produce gas in lactose broth. The *B. coli* tests are grouped under three headings: (1) the presumptive test, consisting only of gas production in lactose broth; (2) the partially confirmed test, consisting of plating a portion of the broth tubes showing gas on litmus lactose agar or endoes media and noting the formation of "typical colon-like colonies"; (3) the completed test, which consists of fishing typical

colonies from the litmus lactose agar plates for demonstration of nonspore-forming bacilli and formation of gas in lactose broth.

It was deemed advisable to make a comparison of the three methods and determine the certainty with which the "typical colon-like colony" can be recognized and which of the three methods is most desirable for California conditions, with a view to reducing the work in the laboratory to a minimum without sacrificing the accuracy of the demonstration of *B. coli*. The following comparison was obtained from an entirely different series of water samples than those given in the preceding table:

*Comparison of B. Coli Tests.*

	24 hours	48 hours
Presumptive test—total -----	321	776
Partially completed tests -----	100%	82.1%
Completed test -----	100%	81.2%

Fifty-one per cent of the tests giving confirmed presence of *B. coli* after 48 hours failed to indicate the presence of *B. coli* on 24 hours incubation. Practically 100 per cent of the 24-hour presumptive tests were positive when confirmed by the completed test; in fact, only one sample out of a total of 321 could not be confirmed. The difference of 0.9 per cent between the "partially confirmed" and "completed test" is considered too small to warrant the large amount of time consumed in completing the confirmation.

It must be recognized that the success of the partially confirmed test depends upon one's ability to distinguish by colony appearance between *B. coli* and similar acid-forming colonies. On litmus lactose agar, the typical colon-like colony appears as a raised red or pink spot in a blue field, or if the field becomes acid, the red or pink color of the colony will be more prominent than that of the field. The colonies on the surface are fat, glistening and smooth with a regular outline. Small deep red colonies with a deep red or brick-colored center or irregular outline are usually not *B. coli*. On endo media, the colonies are raised with a regular outline, deep red and with a highly metallic sheen.

On the large number of 48-hour presumptive tests which we found negative on further confirmation, a large percentage were waters treated with chlorine gas, though the same observation applies to well waters, large reservoirs and streams. The positive presumptive tests in these cases may be attributed to either anaerobic or aerobic lactose-splitting spore-bearing bacilli, which are highly resistant to chlorine. *B. welchii* was isolated from the river supply at Sacramento, California, in 1916, as the anaerobic organism giving the presumptive test in lactose bile. At that time the city laboratory was using only the presumptive test for *B. coli*. In endeavoring to eliminate gas-forming bacteria from the supply, an overdose of chlorine was consequently added which caused tastes and subsequent complaints by the users of the water. More recently a larger number of aerobic spore-bearing lactose-splitting bacilli have been isolated from both chlorinated and unchlorinated supplies. It is thought that both anaerobic and aerobic spore-bearing bacteria and lactose-splitting bacilli are widely distributed in California waters.

**Summary.**

Our experience on a wide range of waters has been that only about 50 per cent of the tests in which *B. coli* are confirmed, develop gas within 24 hours incubation. Forty-eight hours incubation is necessary on tubes in which gas does not develop at twenty-four hours. However, practically all tubes showing gas at the end of 24 hours were later confirmed for *B. coli*. Of those showing gas on 48 hours incubation less than 85 per cent could be confirmed.

Samples developing gas in 48 hours in lactose broth must be fished and streaked on litmus lactose agar or endo media for further confirmation. The presence of typical colon-like colonies on the plate is for all practical purposes sufficient evidence of the presence of *B. coli*.

The subsequent inoculation of lactose broth tubes by such colonies and determination of the lactose-splitting property is practically unnecessary, but is advised for the inexperienced technician.

## REPORT OF THE BUREAU OF FOODS AND DRUGS FOR APRIL, 1918.

E. J. LEA, M.S., Director.

A total of 305 samples were received at the laboratory during the month of April.

The official samples of foods and drugs, 215 in number, consisted of beverages, bread dough, butter, confectionery, chocolate, coffee, condiments, cream, eggs, egg substitutes, egg whites, extracts, fish, fruit, honey, ice cream, liquors, meats, milk, oils, pastes, pastry, salt, spices, vegetables, vinegar, wheat bran, spirits of nitre and tincture of iodine.

The unofficial samples of foods, drugs and miscellaneous materials consisted of eighty-two samples, including bread, bread dough, butter dancy, chocolate, cocoanut, coffee, condiments, cornmeal, cream, egg substitutes, fish, flour, fruit, gelatine, lard substitute, meats, oil, pastes, pastry, soup stock, vegetables, vegetable compounds, walnuts, water, wheat, wheat grit, calcium acid phosphate and waste water.

Thirteen samples were received from the state institutions, classified as follows: Chicken feed, cheese, coffee, fish, flour, pastes and canned vegetables.

### So-Called Egg Substitutes.

The following so-called "egg substitutes" have been collected in the California markets and analyzed.

This table shows the composition, cost to the consumer, actual money value, and the nutritive value compared to eggs of these so-called "egg substitutes."

It will readily be seen that as a class these materials are nonessential, and their prices are far in excess of their value. Furthermore, nearly all of them are artificially colored with coal tar dye, which results in the concealing of inferiority in the products in which they are used.

### CASES REFERRED TO DISTRICT ATTORNEYS.

The following cases were referred by the State Board of Health, at the April meeting, to the district attorneys for prosecution. These cases included inferior liquors sold from bottles bearing the original labels of high-grade manufacturers, tomato products made from moldy and decomposed material, decomposed or rotten eggs sold as fresh, egg substitutes consisting of imitation products colored with coal tar dyes to imitate eggs, extracts highly diluted and deficient in strength, vinegar below standard, filthy and decomposed milk, cream diluted with water, deficient in fat, tubercular beef, chocolate adulterated with sugar and cocoa, compressed ham consisting of filthy and decomposed animal substance, decomposed head cheese, frankfurter sausage containing cereal not declared, canned spinach consisting of filthy and decomposed vegetable material, decomposed dried fruit, and various drugs below standard in strength.

*Auburn*—R. Chiappa, proprietor, Four Corners, Gordon gin; Geo. M. Dyke, Milshire dry gin. *Colma*—Philip Deller, fresh beef. *Grass Valley*—G. Y. Get, vinegar. *Long Beach*—Paul Geisler, Original Egg-Vito. *Los Angeles*—Marston & Martin, True Fruit orange juice. *Nevada City*—R. J. Bennett, camphorated oil. *Oakland*—F. W. Diehl, fresh eggs; E. Marre & Bro., Jamaica ginger flavor and peppermint flavor; Crystal Market, H. C. W. Steinbeck, compressed ham; Bright & Miller, Berlin ham; Berquest Bros., compressed ham; Leber Drug Co., A. Davis, proprietor, headache tablets; Mueller Bros., headcheese; Genoa Grocery, Raffo, Peluffo & Cenvari, maple drips; American Creamery Co., milk (referred on two counts); A. J. Hanford, cider vinegar; The Grill, J. S. Kovacevich, proprietor, Old Scotch Whiskey; Chanquet Bros., Dewar's Scotch Whiskey. *Pittsburg*—Grand Central Market, Albert Noziglia, Frankfurter sausage. *Sacramento*—Columbia Market, Inc., pure chocolate. *Salinas*—Italian Hotel Bar, Sisti Segretti, proprietor, Cherry Brandy. *San Diego*—Home Supply Co., Inc., pure chocolate. *San Francisco*—Garbina Bros. & Co., salted anchovies; Workman Packing Co., Beno (canned beans); Riviera House Bar, Cordano & Gnecco, proprietors, Fernet Bitters and Ferro China Bitters; Rosenberg Bros., fig paste; Franquemont & Vail, Eggoe; B. Winther, egg noodles; California Paste Co., egg noodles; Reed Pickle Works, Mrs. Reed's Spinach (referred on two counts); Reed Pickle Works, catsup (referred on two counts); Mission Grill and Restaurant, Thos. Kristovich, proprietor, catsup; Fontana & Stanghellini, tomato paste (referred on two counts); Genoa Grocery, Raffo, Peluffo & Cenvari, tomato paste; M. L. Nathan, Old Stave Pure Bourbon Whiskey; P. J. Reilly, Sunnybrook Whiskey; Star Saloon, Aug. Pomiczynski, whiskey; Riviera House Bar, Cordano & Gnecco, Old Hickory Whiskey.

## CONVICTIONS UNDER FOODS AND DRUGS ACTS REPORTED DURING APRIL, 1918.

There were 45 convictions obtained during the month of April, a total of \$985 in fines being imposed; following is a list of the violators:

*Berkeley*—Geo. Fedderwitz, eggs, adulterated and mislabeled, fined \$25; Lincoln Market, Lesser Bros., pressed ham, adulterated and mislabeled, fined \$10.

*Concord*—A. Ferrogiano, proprietor, Liberal Hotel, Amer Picon, adulterated and mislabeled, fined \$5.

*Crockett*—Louis Sarris, banana syrup, adulterated and mislabeled, fined \$5; Reception Saloon, Fernet Branca, adulterated and mislabeled, fined \$5.

*Los Angeles*—New Turner Hall Bar, whiskey, adulterated and mislabeled, fined \$50\*; Chas. Clark, catsup, adulterated and mislabeled, fined \$25; Holman Grocery Co., egg noodles, adulterated and mislabeled, fined \$25; Boston Cent Profit Confectionery, strawberry drops, adulterated and mislabeled, fined \$20; Joe Lowe Co., lemon oil and egg substitute, adulterated and mislabeled, fined \$50\*; New York candy Kitchen, maple fudge, adulterated and mislabeled, fined \$20; Bee Hive Confectionery, maple sugar, adulterated and mislabeled, fined \$15; Albert Cohn, licorice drops, adulterated and mislabeled, fined \$15; Busy Bee Confectionery, raspberry drops, adulterated and mislabeled, fined \$20; Martin Bros. Grocery, fresh eggs, adulterated and mislabeled, fined \$20; Waldorf Saloon, Fernet Branca, adulterated and mislabeled, fined \$25; Lowis Home Bakery, potato bread, adulterated and mislabeled, fined \$20; Food Supply Co., J. S. Woolacott, president, tomato products, fined \$25\*.

*Martinez*—Hotel Oehn Bar, whiskey and gin, adulterated and mislabeled, guilty.

*Oakland*—Avenue Drug Co., S. H. Clark, proprietor, tincture iodine, adulterated and mislabeled, fined \$25; Bright & Miller, Berlin ham, adulterated and mislabeled, fined \$5; Leber Drug Co., headache tablets, adulterated and mislabeled, fined \$25; Atlas Cafe, J. Mellis, proprietor, catsup, adulterated and mislabeled, fined \$5; E. Marre & Bro., Jamaica ginger flavor and peppermint flavor, fined \$10\*; J. S. Kovacevich, whiskey, adulterated and mislabeled, fined \$5; Western Meat Co., eggs, adulterated and mislabeled, fined \$5; Yow Sang Co., corned beef, adulterated and mislabeled, fined \$5; Oakland Candy Kitchen, L. G. Zervas, proprietor, raspberry syrup and pineapple syrup, adulterated and mislabeled, fined \$10\*; Navlet Coffee Co., coriander seed, adulterated and mislabeled, fined \$5; H. C. W. Steinbeck, compressed ham, adulterated and mislabeled, fined \$5.

*San Jose*—F. G. Wool Packing Co., tomato puree, adulterated and mislabeled, fined \$50; Gerome Tripoli, tomato puree, fined \$25; California Canneries Co., tomato puree, adulterated and mislabeled, fined \$50; California Canneries Co., tomatoes, adulterated and mislabeled, fined \$50.

*San Pedro*—McKelvy & Straight, gin and whiskey, adulterated and mislabeled, guilty; John F. Winkens, brandy, adulterated and mislabeled, guilty.

*Taft*—California Market Co., M. P. Smith, president, chopped meat, adulterated, fined \$25; Pioneer Market, Inc., C. W. Musick, president, chopped meat, adulterated, fined \$25.

### ARTICLES OF FOOD CONDEMNED.

The following articles of food, condemned upon physical and chemical examination as unfit for food, were either destroyed or denatured during the month of April, 1918:

Antipasto (a vegetable compound), 3,280 cans, decomposed, Parodi, Erminio & Co., San Francisco; butter, 36 pounds, rancid, Jos. Kolberg Bakery, San Francisco; catsup, 30 8-ounce bottles, decomposed, Henry Rowe, Los Angeles; gelatine, 236 pounds, substitution, Cardinet Candy Co., Oakland; lobsters, 8,000 pounds, decomposed, E. W. Waybright, agent Southwestern Fish Co., San Diego; mustard, four 6-ounce jars, decomposed, Royston No. 2, Los Angeles; orange filler for cake, 45 pounds, moldy and fermented, South Berkeley Bakery, Herman Hellwing, proprietor, Berkeley; pears, 715 pounds, wormy and immature, Castle Bros., San Francisco; pickles, ten 8-ounce bottles, decomposed, Samson Carliss, Los Angeles; syrup, 1 gallon, infested with dead ants, J. Callenberg, The Bonboniere, Alameda.

The following opinions have been received from the Bureau of Chemistry, U. S. Department of Agriculture, Washington, D. C., during the month of April:

\*Convicted on two counts.

Name	Sold for	Amount in package	Approximate composition				Nature of protein	Coal tar dye	Cost of ingredients (except dye) at retail
			Protein	Starch	Fats	Moisture			
Egg-O-Same -----	25 cts.	2 ozs. + (62.5 gm.)	27.0%	57.0% (rice)	1.90%	10.0%	Milk (casein)	Present	4 cts.
Egg Vito -----	35 cts.	4 ozs. (110 gm.)	3.5%	85.0% (corn)	1.00%	10.0%	Milk and egg	Present	4½ cts.
Eggoe -----	25 cts.	3½ ozs. (100 gm.)	8.0%	80.0% (corn)	1.00%	11.0%	Milk (casein)	Present	4 cts.
Eggoe (white) ---	25 cts.	3½ ozs. (100 gm.)	8.0%	80.0% (corn)	1.00%	11.0%	Milk (casein)	None	4 cts.
Eggine -----	25 cts.	4 ozs. (116 gm.)	24.0%	55.0% (corn)	0.50%	10.0%	Milk (casein)	Present	7 cts.
Egis -----	17½ cts.	2 ozs. (60 gm.)	2.5%	86.0% (corn)	0.25%	11.0%	Milk (casein)	Present	2 cts.
Savaegg -----	12 cts.	1½ ozs. (38 gm.)	27.0%	62.0% (corn)	Trace	11.0%	Milk (casein)	Present	2½ cts.
Mazo -----	25 cts.	4 ozs. (116 gm.)	13.5%	76.0%	0.50%	10.0%	Milk (casein)	None	5½ cts.
Tiz-Eg -----	-----	-----	12.0%	75.0%	0.50%	11.0%	Milk (casein)	Present	5½ cts. for 4 ozs.
Eggosine ----- (Egg-in-all)	25 cts.	4 ozs. (116 gm.)	10.0%	80.0% (bakg-pwdr)	5.0%	3.0%	Egg	Present	12 cts.
Custodene ----- (Custocreme)	25 cts.	4 ozs. (116 gm.)	7.0%	78.0%	5.0%	9.0%	Egg	Present	7 cts.
Gem Egg Saver---	25 cts.	3½ ozs.	12.5%	79.0% (corn)	0.25%	8.0%	Milk and small am't egg	Colored with tumeric	6 cts.
Egg-o-gene -----	-----	-----	Present	Abundant	Trace	-----	Milk (casein) no egg	Present	-----
Egg-o-lette -----	-----	-----	Present	Abundant	Trace	-----	Egg albumin	Present	-----

NOTE.—Calories in 10 cents worth of milk at 14 cents per quart, 725. Calories in 10 cents worth of corn starch at 12 cents per pound, 1,500.

Claims made	True nutritive value (per package)		True cooking value equivalent to	Calories in 10 cents worth
	Protein	Total calories		
"Nutritious." "Equivalent to 30 eggs."	Equals $2\frac{1}{2}$ eggs	Equals 3 eggs	Less than 4 cents worth of albumin (powdered) mixed with 2 cents worth of rice flour.	90
From eggs, milk and cereal. "In every way takes the place of eggs in recipes." Package serves as 3 dozen eggs.	Equals $\frac{1}{2}$ of 1 egg	Equals $5\frac{1}{2}$ eggs	Less than 1 cent worth of powdered albumin mixed with 3 cents worth of corn starch.	100
"May be used in place of 3 dozen eggs."	Equals 1 egg	Equals 5 eggs	Less than 2 cents worth of powdered albumin mixed with 2 cents worth of corn starch.	145
"May be used in place of 3 dozen eggs."	Equals 1 egg	Equals 5 eggs	Less than 2 cents worth of powdered albumin mixed with 2 cents worth of corn starch.	145
"Use in place of 3 dozen eggs." "Makes richer cake than egg."	Equals 4 eggs	Equals 5 eggs	Less than 6 cents worth of powdered albumin mixed with 1 cent worth baking powder and 1 cent worth starch.	150
"Contents of package used instead of 3 dozen eggs in baking."	Equals $\frac{1}{2}$ of 1 egg	Equals 3 eggs	Less than $\frac{1}{2}$ cent worth of powdered albumin mixed with $1\frac{1}{2}$ cents worth corn starch.	117
"A substitute for the leavening and thickening effect for which eggs are often employed in baking and cooking."	Equals $1\frac{1}{2}$ eggs	Equals 2 eggs	Less than 2 cents worth of powdered albumin mixed with $\frac{3}{4}$ cent worth corn starch.	113
"Does the work of 3 dozen eggs." "Costs but a fraction of the cost of eggs."	Equals $2\frac{1}{2}$ eggs	Equals $5\frac{1}{2}$ eggs	Less than 3 cents worth of powdered albumin mixed with $2\frac{1}{2}$ cents worth starch.	170
"One teaspoonful equals in cooking value 2 eggs."	One teaspoon equals $1/10$ of 1 egg	One teaspoon equals $\frac{1}{2}$ of 1 egg	Less than (for 1 teaspoon) $1/10$ egg mixed with 1 teaspoon of starch.	----
"25-cent can will do the work of one dozen eggs plus 4 ounces good quality baking powder."	Equals 2 eggs	Equals 4 eggs	Less than 3 eggs mixed with 4 ounces baking powder.	----
"Will save eggs and cream."	Equals 2 small eggs	Equals 6 eggs	Less than 2 medium size eggs mixed with $2\frac{1}{2}$ cents worth starch.	178
"May be used in place of 36 eggs, equal to buying eggs at $8\frac{1}{2}$ cents a dozen." "Many prefer it to real eggs in cooking."	Equals 2 eggs	Equals 5 eggs	Less than 3 cents worth of powdered albumin mixed with $2\frac{1}{2}$ cents worth of corn starch.	145
"One pound equals 40 eggs."	-----	-----	-----	-----

NOTE.—In comparing foods by the number of calories they contain, it should be remembered that calories in the form of protein (as found abundant in milk and eggs) are more valuable than in the form of starch, which by itself is incapable of supporting life.

**257. Chamomile adulterant.**

Examinations of importations of "chamomile flowers" (*Matricaria chamomilla* L.) have disclosed that in some instances the flowers of dog fennel (*Anthemis cotula* L.) have been substituted in amounts up to 25 per cent. The flowers of *Matricaria chamomilla* have naked, hollow receptacles, whereas those of *Anthemis cotula* are solid and chaffy. The department will recommend the detention of shipments labeled "chamomile flowers" found to contain dog fennel or other foreign matter in excess of 5 per cent, the standard established in the United States Pharmacopœia, IX.

**258. Licorice root.**

Examination of material imported as licorice root has disclosed that the product was not obtained from either of the species official in the United States Pharmacopœia, namely, Spanish licorice, *Glycyrrhiza glabra typica* Regel et Herder, or Russian licorice, *Glycyrrhiza glabra glandulifera* Regel et Herder, but consisted of Asiatic (Chuntschir) licorice, *Glycyrrhiza uralensis* Fischer, an unofficial species. The sample, except that it contained a considerable amount of stems, was of a good quality. Asiatic licorice, according to information available in the literature, contains about the same amount of glycyrrhizinic acid (18 to 20 per cent) as Spanish and Russian licorice. The department will offer no objection to the importation of this product if labeled "Asiatic Licorice Root. Not recognized in the U. S. P."

**259. Harlem oil.**

Heretofore the Bureau of Chemistry has been rather inclined to the opinion that Harlem oil had a geographical significance, and could not be considered generic in its meaning. In the past few years inquiries made of the bureau with regard to the proposed label for an oil manufactured in this country and identical with the foreign product heretofore known as Harlem oil have indicated the necessity for considering this term in a broader sense.

The bureau is now of the opinion that the restriction formerly applied to the product can not be consistently maintained, and accordingly there will be no objection to the designation of such an article as Harlem oil, provided the name be modified to indicate the place of production, as, for example, "Harlem Oil, Manufactured in America."

**260. Mustard seed standard and assay method (correcting item 213, p. 59, S. R. A. Chem. 20).**

In the factor for allylisothiocyanate, a typographical error appears in the last sentence of item 213, as "0.004956 grain" should read "0.004956 gram."

**261. Notice to shippers of cotton seed.**

The department is of the opinion that cotton seed shipped in interstate commerce or offered for import or export or manufactured or sold in the District of Columbia or the territories is subject to the provisions of the Federal Food and Drugs Act.

It has been stated that it is a common practice among cotton seed ginners to remove the bulk of foreign matter (consisting of dirt, sand, stones, leaves, hulls, sticks, stems, bolls, etc.) contained in the unginned cotton from the lint and seed and subsequently add this foreign matter to the cotton seed before shipment. It has been stated further that in some cases cottonseed producers or merchants add extra dirt or sand, which was not obtained from the unginned cotton, to their cotton seed before shipment.

The department is of the opinion that the return of foreign matter to cotton seed or the deliberate addition of foreign matter to cotton seed as above described constitutes adulteration under the provisions of section 7 of the Federal Food and Drugs Act.

**262. Ash content of sorghum and molasses.**

The limit for ash content in the standard for sorghum sirup, page 10, Circular 19, Office of the Secretary, is 2.5 per cent. This product, however, is now under consideration by the Joint Committee on Definitions and Standards, and, pending the issuance of new standards or definitions for this sirup, the department will not recommend action under the Food and Drugs Act with reference to shipments of sorghum sirup based solely upon the fact that such sirup may contain more than 2.50 per cent ash.

The limit for ash content in the standard for molasses, page 10, Circular 19, Office of the Secretary, is 5 per cent. This product is also under consideration by the Joint Committee on Definitions and Standards, and, pending the issuance of new standards or definitions for molasses, the department will not recommend action under the Food and Drugs Act with reference to shipments of molasses based solely upon the fact that such molasses may contain more than 5 per cent ash.

Any statements on the label of these products regarding source, quality, or grade which upon examination and consideration appear to be false or misleading, and therefore constitute misbranding under the Food and Drugs Act, will result in appropriate action.

#### 263. Labeling of figs.

It has come to the attention of the bureau that certain figs grown in California from Smyrna stock are being sold under the title "Smyrna figs," being also labeled in each instance with the place of production.

The figs of domestic production are sold in the same market as figs imported from Smyrna. The bureau is therefore of the opinion that the designation of California figs as "Smyrna figs" is false and misleading. No objection is offered to an indication of the fact that a local product has been produced from Smyrna stock, provided the product is labeled with a plain statement which will distinguish the source of its production from figs imported from Symrna.

#### 264. "Water-ground" meal.

The bureau is of the opinion that the motive power used in a mill manufacturing corn meal by the old-fashioned process is a matter of no significance, and the bureau will therefore not object to the use of the term "water ground" as applied to meal made in this fashion, if the motive power is other than water.

#### 265. Use of mineral oil as slab dressing.

Mineral oils, in common with all petroleum products, are neither digested nor assimilated by the system and have no food value. Unless properly purified they are also liable to contain ingredients of a poisonous or deleterious nature. As there are many animal or vegetable oils which have a recognized place and value as fool, the use of mineral oils as an ingredient of food products appears unnecessary.

Mineral oil has been used in the preparation of confectionery under conditions by which little or none of the oil is introduced into the finished product. Under these conditions the bureau accordingly at the present time offers no objection to the use of a high-grade harmless mineral oil as a slab dressing for confectionery—that is, for the purpose of allowing the confectionery to be readily removed after it has been poured or dropped on the slab.

#### 266. Use of term "blood orange."

There are on the market certain flavors prepared by the use of oil of orange which are intended for the production of soft drinks. In some cases an article of this character is colored red and designated by a term such as "blood-orange flavor." The application of the term "blood orange" without qualification to such articles, as well as to the beverages made therefrom, is regarded as a violation of the act, unless the flavor of same has actually been derived from blood oranges.

#### 267. Alcoholic content of beverages.

All alcoholic beverages which contain less than the normal amount of alcohol should be plainly labeled to indicate at least their approximate alcoholic content, and the statement giving this information should appear upon the principal label in direct connection with the name of the article. In the case of brandy, rum and gin this statement should appear whenever the alcoholic content of these beverages is less than 40 per cent by volume; provided, however, that the labels of types of gin such as sloe gin which normally contain less than 40 per cent of alcohol are required to bear the statement in question only when the alcoholic content of such gin is below normal. A similar position has already been taken in Food Inspection Decision 113 with respect to whisky.

#### 268. Red beans.

Supplementing item 201 in Service and Regulatory Announcements, Chemistry 19 (p. 52), on California pink beans, the terms "kidney beans" and "red kidney beans" should, in the opinion of the bureau, be restricted to the particular types of beans which are well recognized by the trade under such names. It has been suggested that the various types of red and pink beans which are canned be included under the general term "red beans." At the present time the bureau will offer no objection to the use of the term "red beans" to include canned beans of the varieties known variously as California pink, Manchurian red or Kintoki, red marrow, and Mexican red beans. Item 201 is amended accordingly.

#### 269. Labeling of canned crawfish.

Opinion 103 in Service and Regulatory Announcements, Chemistry 12 (p. 754), relates principally to the labeling of certain crawfish so as to distinguish them from lobster. When crawfish are designated as such there is, of course, no objection to further description which will allow of a more thorough understanding on the part

of the purchaser of what the article is. For example, crustaceans of the genera *Palinurus* and *Panulirus*, which are found in salt water, may properly be designated as a salt-water crawfish, salt-water crayfish, sea-crawfish, or sea-crayfish.

**270. Weights of mushrooms necessary for cans or various sizes.**

It has come to the notice of this department that canned mushrooms containing an excessive amount of liquor have been placed on the market. In conformity with the general principles announced in Food Inspection Decision 144, it is the opinion of this department that the cans should be packed as full as practicable with the mushrooms, and should contain only sufficient liquor to fill the interstices and cover the product. Investigation has shown that the following weights of drained mushrooms represent the minimum quantities necessary to properly fill tins of the respective trade sizes. Cans found to contain excessive quantities of liquor will be held to be adulterated.

Tins	Height, inches	Diameter, inches	Drained mushrooms	
			Pounds	Ounces
1 kilo	4 $\frac{1}{2}$	4	1	
$\frac{1}{2}$ kilo	4 $\frac{1}{2}$	2 $\frac{7}{8}$		8
$\frac{1}{4}$ kilo	3 $\frac{1}{2}$	2 $\frac{1}{4}$		4
$\frac{1}{8}$ kilo	2 3/16	2 $\frac{1}{4}$		2

**271. Almonds in sacks not in package form.**

The bureau has been requested to express an opinion with regard to the application of the net weight amendment to almonds in sacks. From the results of investigation and information available it appears that sacks of almonds are not uniform in quantity of contents for the several varieties, for grades of the same variety, or for any particular lot of the same grade and variety, and that such sacks are not commercial units of invoice or sale, either wholesale or retail, the almonds being sold by actual weight. In view of these facts, the bureau is of the opinion that doubt exists as to whether almonds so packed should be considered as food in package form, and pending publication of notice to the contrary, no action will be taken requiring them to be marked with the quantity of the contents.

**272. Statement of contents on packages of prepared mustard.**

It has come to the attention of the bureau that considerable air is incorporated in prepared mustard during the grinding process, and that in the case of shipment of prepared mustard in barrels, although they may be completely filled when delivered for shipment, a material wantage will be found after shipment, due to loss of incorporated air by vibration. In view of these facts, which were not known to the bureau at the time of the issuance of Opinion 65 in Service and Regulatory Announcements, Chemistry 7 (p. 528), the opinion is hereby withdrawn, and in lieu thereof the bureau suggests that in the case of prepared mustard, if in package form, the quantity of the contents be declared in terms of weight.

## MATERIAL IN COLD STORAGE APRIL 1, 1918.

Peas	34,733	gals.
Bulbs, plants, etc.	27,001	lbs.
Butter	800,588	lbs.
Cheese	1,667,699	lbs.
Cider	3,906	gals.
Condiments—		
Catsup	315,500	lbs.
Pickles	32,684	lbs.
Cooking compound	987	lbs.
Eggs—		
Dried	20	lbs.
Fresh	2,315,728	doz.
Frozen	180,950	lbs.
Lard	113,947	lbs.
Meat—		
Beef	195,280	lbs.
Ham and Bacon	1,250	lbs.
Miscellaneous	2,419,024	lbs.
Mutton	700	lbs.
Pork	618,047	lbs.
Veal	350	lbs.
Fish—		
Bloaters	117,690	lbs.
Dried	180,030	lbs.
Frozen	27,300	lbs.
Miscellaneous	139,101	lbs.
Pickled	189,625	lbs.
Shell	4,500	lbs.
Smoked	132,900	lbs.
Fruit—		
Apples	14,794,002	lbs.
Berries	1,173,049	lbs.
Dried	146,065	lbs.
Frozen	6,182	lbs.
Miscellaneous	4,937,111	lbs.
Pears	37,160	lbs.
Oranges	29,200	lbs.
Milk, condensed	258,298	lbs.
Nuts	10,204	lbs.
Nut meats	219,337	lbs.
Oleomargarine	82,379	lbs.
Poi	327	lbs.
Poultry—		
Chickens	310,989	lbs.
Miscellaneous	790,700	lbs.
Turkeys	295,828	lbs.
Syrup	54	bbls.
Vegetables—		
Beans	2,220	lbs.
Celery	110,000	lbs.
Horseradish	108,103	lbs.
Miscellaneous	326,264	lbs.
Onions	5,368,524	lbs.
Potatoes	17,802,819	lbs.
Tomatoes	800	lbs.
Whale meat	27,266	lbs.
Wine	25	bbls.

## REPORT OF BUREAU OF REGISTRATION OF NURSES FOR APRIL, 1918.

ANNA C. JAMMÉ, R.N., Director.

At the regular meeting of the State Board of Health, held April 6, a resolution was adopted changing the requirements for schools of nursing to some extent, and prescribing certain rules for the admission of students after September 1 of this year.

A revision of the requirements has become necessary, due to the educational standard for admission to schools of nursing and to conditions brought into existence by the war. Methods of education in general are undergoing a very radical change which is making it possible that a certain portion of the instruction hitherto largely given by the hospital can be obtained in a secondary school, junior college, or college, namely the fundamental scientific subjects which such schools are imminently fitted to teach.

The need of a larger number of nurses by our government demands change in the arrangement of the course of instruction whereby the work may be pushed forward during the first and second years of the professional training, leaving the third year somewhat free for those who will be admitted on a basis of advanced standing and also in view of the fact that the government may during the period of the war require students in their third year to be assigned to military hospitals to complete their course of training.

The plan as herein outlined will not to any great degree disturb the present arrangement of courses in hospitals. It merely takes from the first half-year the three fundamental scientific subjects, chemistry, biology and physiology, nutrition and cookery, and places them in the secondary school. This gives a far better opportunity to the student of nursing to get a broader foundation for her training and future work, to enrich her fund of general knowledge and to acquire better judgment and stronger mental poise. It opens the way for the study of the purely professional subjects and quickens her vocational interest by giving her a motive for her work in the secondary school.

The plan for the admission of students will afford opportunity to many capable and intelligent young women well fitted for the work and who desire to take it up with a serious purpose in view. Arrangement has been made for those who may be deficient in the theoretical preparatory courses and for those who will be credited for this portion of the work.

### Requirements for Admission.

Applicants to schools of nursing will be admitted on the following basis:

1. On presentation of satisfactory evidence of the fitness for the study of nursing as follows:
  - (a) Character. Testimonials of good moral character from a responsible person indicating that the applicant has obtained sufficient moral poise to conduct herself fittingly and properly during the term of training.
  - (b) Certificate of sound physical condition and mental ability from a physician in good standing.
  - (c) Evidence of satisfactory scholarship. Applicants may be admitted on a basis of instruction in English during the first two years of high school. It is, however, recommended that the subject be taken for three, or preferably four, years.
2. Applicants presenting a certificate from an approved secondary school showing they have completed with credit the subjects required in the theoretical preparatory course shall be admitted to full standing in the school of nursing with six months credit.
3. Applicants presenting a certificate from an approved secondary school, but who are deficient in any of the required subjects, may be admitted to provisional standing until such deficiencies are removed. On presentation of credits for this work they will be admitted to full standing in the school of nursing.
4. Applicants who do not present a certificate from an approved secondary school, but who present satisfactory credits in the required subjects, may be admitted to full standing in the school of nursing without credit.

5. Applicants who do not present a certificate from an approved secondary school and who have had no instruction in the required subjects, but who show exceptional intellectual and physical ability, will take an examination before commencing the course of instruction in the following subjects:

- (a) English, including composition, spelling, punctuation.
- (b) Arithmetic, including fractions and decimals.
- (c) History, American History and a choice of either civics, science or language, which have been pursued for one year.

If the examination is satisfactory, applicants will be admitted to provisional standing for one year on the following conditions: that students shall be entered in the high school in the locality of the school of nursing for the full year's course in the required subjects. On evidence of the satisfactory completion of these courses such students will be admitted to full standing.

6. Graduates of institutions recognized by the Associations of American Universities and Colleges may be admitted to advanced standing with one year credit. Candidates for this advanced standing must fulfill the requirements for the theoretical preparatory work during the course, or show by examination that such requirements have been fulfilled.

7. Applicants who present credentials from accredited schools of nursing signed by the proper officials and giving full information concerning the courses pursued, the number of hours of instruction in each subject and their grading on each subject, also evidence showing the nature and amount of practical experience in the services of the hospital and their efficiency record in each service, also evidence that they have complied with the general ruling as to character and physical condition, will be admitted to advanced standing as will be equitable in accordance with the evidence submitted.

#### Credentials.

Credentials and examination grades must be forwarded to the Bureau of Registration of Nurses, Sacramento, before an applicant is formally admitted as a student to any accredited school of nursing. A card of admission will then be forwarded to the applicant which will indicate advanced, full, or provisional standing. When those admitted to provisional standing have complied with requirements for full standing, a card indicating this will be forwarded to the applicant and a copy kept on file in the office of the bureau. This will indicate her eligibility for examination for certificate as registered nurse on the completion of the course, provided she has met in full the requirements of the State Board of Health.

#### SUMMER SESSION COURSES FOR NURSES AT BERKELEY AND LOS ANGELES.

The summer session courses are now calling the attention of graduate nurses. It may seem that every nurse is far too much occupied with war service to think of taking a summer session course. When we realize that the front line of defense is right here close to use, and that the building up of the health of our young citizens is one of our greatest responsibilities, we can readily see why we must have public health nurses to assist in this work and why we must have many of them.

The teaching of our nurses in our training school is now, more than ever, a solemn duty and responsibility. Our instructors are performing a very great patriotic service in their work of preparing the future nurses who will take the places of those at the front in Europe and at the front in this country in the years of war ahead of us. We must have instructors and administrators and we must have many more of them.

The university is offering a very excellent arrangement and every opportunity will be given, both at Berkeley and Los Angeles. It is certainly a very great privilege to be able to lay aside hospital and nursing cares for a brief six weeks and once more to be a student; to renew and enrich one's fund of knowledge; to get one's vision opened and widened; to receive added inspiration which will lighten the burden of work and invest it anew with joyous enthusiasm.

Following is the arrangement of the courses:

**Berkeley.**

**Elementary Bacteriology.**

Miss Bradley and Miss Abbott.

An introductory course in bacteriology, including preparation of culture media, isolation of organisms, and the methods of studying them. Some of the commoner disease-producing bacteria will be considered briefly. *4 units.*

M. Tu. W. Th. F.: lectures, 1; laboratory, 2-5.

**3. Hospital Administration.**

The various phases of hospital management, such as planning and equipment, service, costs, purchasing, and supervision of departments. Lectures. In addition to the regular class meetings there will be required at least six hours per week of outside study. *1 unit.*

Tu. Th., 11.

**S5. Home Care of the Sick.**

Miss Sherman.

A Red Cross course. Lectures for women on elementary nursing procedures, with practical demonstrations and exercises. *2 units.*

M. Tu. W. Th. F., 9.

**S7. First Aid.**

Dr. McVey and Dr. Storer.

A Red Cross course for persons engaged in school playground and industrial pursuits on the recognition of common emergencies with practical exercises in bandaging, application of splints, artificial respiration, and the transportation of the injured. *1 unit.*

M. Tu. W. Th. F., 8.

**9. Methods of Teaching in School of Nursing.** Aileen Sinclair, R.N.

Methods of presentation of the subjects in the training school curriculum. Lesson plans, material for demonstration and the choice of textbooks will be considered. *1 unit.*

M. W. F., 10.

**10. Essentials of Public Health.**

Dr. Hoag.

Lectures on the control of communicable diseases, child hygiene and general sanitation. *2 units.*

Lectures, M. Tu. W. Th. F., 8.

**12. Principles and Practice of Public Health Visiting.**

Miss Orcutt.

Field exercises in health visiting. The organization and administration of health visiting work, the functions of health authorities, laws relating to the public health, school nursing, infant welfare, industrial welfare and rural health problems. *2 units.*

Field exercises M. Tu. Th. F., 9-12.

**Los Angeles.**

**1. Essentials of Public Health.** Dr. Force, Dr. Pomeroy and Miss Stuart.

Lectures, field excursions and laboratory exercises on the control of communicable diseases, child hygiene and general sanitation. *2 units.*

Lectures, M. F. 1; field excursions S. 9-12; laboratory exercises, M. F., 2-4, W. 1-3.

**2. Principles and Practice of Public Health Nursing.**

Miss Evans.

Lectures and field exercises in health visiting. The course will consider the organization and administration of health visiting work, the functions of health authorities, laws relating to the public health, school nursing, infant welfare, industrial welfare and rural health problems. *2 units.*

Lectures, Tu. F., 8; field exercises, Tu. 9-12, 1-4, F. 9-12.

**3. Medical Social Service.**

Miss Spiers.

Lectures and field exercises in medical social service. The organization and administration of dispensary service, including follow-up and efficiency tests. The relation of the dispensary to the health department. The social background of preventive medicine. *2 units.*

Lectures M. W. 9, Th. 8; field exercises, Th. 9-12, 1-4.

**AN IMPORTANT ANNOUNCEMENT.**

Again the University of California, in its splendid spirit of coming forward to aid us to recruit as rapidly as possible women who may be fitted by education to take up our administration and public health work, has announced some valuable work for this summer. It will give to the woman who holds her bachelor of science or bachelor of arts degree an intensive course in the theoretical preparatory subjects covering a period of twelve weeks. On completion of this course she will be entitled to one year of credit on her professional course in the hospital. Applicants to schools of nursing, even though they may hold a degree, can not be admitted with one year credit unless they have fulfilled the requirements of the State Board of Health.

Following is the announcement made by the University of California:

"The Regents of the University of California have recently extended the vacation period to September 30. This will allow the organization, at the university, of courses which will receive credit in schools of nursing.

The State Board of Health, through the Bureau of Registration of Nurses, has ruled that persons holding the bachelor's degree may be admitted to the second year of the three years curriculum in accredited schools of nursing, provided they have completed specified courses in Chemistry, Dietetics, Biology, Nursing Subjects, Bacteriology, Social Economics, Psychology and Public Health. It is the purpose of the university to provide instruction in such subjects during the twelve weeks period from June 24 to September 14. The tuition fee will be \$30.

Graduates of universities and colleges in the classes of 1909-1918 will be admitted on application. Application for admission may be made and further information obtained at the office of the Dean of Women, 205 California Hall."

## LIST OF COUNTY AND CITY HEALTH OFFICERS.

Alameda County—		Inyo County—	
Dr. J. Hal Cope	Pleasanton	Dr. I. J. Woodin	Independence
Alameda	Dr. A. Hieronymus	Bishop	John B. Clarke
Albany	Dr. J. F. Diddle	Kern County—	
Berkeley	Dr. J. J. Benton	Dr. C. A. Morris	Bakersfield
Emeryville	Dr. A. T. Drennan	Bakersfield	Dr. P. J. Cuneo
Hayward	Dr. F. W. Browning	Delano	Dr. J. R. Hicks
Livermore	Dr. J. K. Warner	Maricopa	Dr. H. N. Taylor
Oakland	Dr. Kirby B. Smith	McKittrick	Dr. Robert C. Dear
Piedmont	Dr. Benj. T. Mouser	Taft	Dr. M. W. Pascoe
Pleasanton	Dr. J. Hal Cope	Tehachapi	Dr. T. F. O'Reilly
San Leandro	Dr. Luther Michael	Kings County—	
Alpine County—		Dr. C. L. Scott	Hanford
Mr. Fred S. Dunlap	Markleeville	Corcoran	Dr. J. T. Peery
Amador County—		Hanford	Dr. A. S. Torrens
Dr. G. L. Lynch	Amador City	Lemoore	Dr. W. P. Byron
Jackson	H. E. Kay	Lake County—	
Plymouth	W. J. Ninnis	Dr. A. N. Craig	Kelseyville
Sutter Creek	T. W. Trudgen	Lakeport	P. H. Millberry
Butte County—		Lassen County—	
Dr. L. L. Thompson	Gridley	Dr. W. E. Dozier	Susanville
Biggs	R. W. Simmons	Susanville	Dr. F. D. Walsh
Chico	W. H. Marshall	Los Angeles County—	
Gridley	Dr. L. Q. Thompson	Dr. J. L. Pomeroy	Los Angeles
Oroville	Dr. W. F. Gates	Alhambra	Dr. F. E. Corey
Calaveras County—		Arcadia	Dr. Chas. D. Gaylord
Dr. George F. Pache, Angels Camp		Avalon	Dr. J. J. Peckham
Angels Camp	Dr. E. W. Weirich	Azusa	Dr. John E. Hill
Colusa County—		Beverly Hills	Dr. Oscar H. Mueller
Dr. G. W. Desrosier	Colusa	Burbank	Dr. E. H. Thompson
Colusa	Dr. G. W. Desrosier	Claremont	Dr. A. V. Stoughton
Contra Costa County—		Compton	E. E. Elliot
Dr. Chas. R. Blake	Richmond	Covina	
Antioch	Dr. W. S. George	Culver City	
Concord	Dr. F. F. Neff	Eagle Rock	Dr. C. H. Phinney
El Cerrito	Dr. J. F. Diddle	El Monte	Dr. S. L. Corpe
Hercules	Dr. C. T. Wetmore	El Segundo	R. F. Davis
Martinez	Dr. Edwin Merrithew	Glendale	Dr. R. E. Chase
Pinole	Dr. M. L. Fernandez	Glendora	Dr. L. N. Suydam
Pittsburg	Dr. H. E. Peters	Hermosa Beach	B. F. Brown
Richmond	Dr. Chas. R. Blake	Huntington Park	Dr. W. Thompson
Walnut Creek	Dr. C. R. Leech	Inglewood	Dr. W. W. Reber
Del Norte County—		La Verne	Dr. J. E. Hubble
Dr. E. M. Fine	Crescent City	Long Beach	Dr. R. L. Taylor
Crescent City	Dr. E. M. Fine	Los Angeles	Dr. L. M. Powers
El Dorado County—		Manhattan Beach	Llewellyn Price
Dr. S. H. Rantz	Placerville	Monrovia	Dr. Chas. D. Gaylord
Placerville	G. H. Wickes	Monterey Park	Dr. J. S. Trewhella
Fresno County—		Pasadena	Dr. Stanley P. Black
Dr. G. L. Long	Fresno	Pomona	Dr. N. J. Rice
Clovis	Dr. M. S. McMurtry	Redondo Beach	Dr. D. R. Hancock
Coalinga	Dr. C. W. Hutchison	San Fernando	Dr. Benj. B. Ward
Firebaugh	Dr. H. J. Greven	San Gabriel	Dr. Wm. W. Worster
Fowler	Chas. Chapman	San Marino	Dr. W. LeMoyne Wills
Fresno	Dr. C. Mathewson	Santa Monica	Dr. F. J. Wagner
Kingsburg	Dr. J. A. Gillespie	Sawtelle	Dr. A. B. Hromadka
Reedley	Dr. Chas. H. Traber	Sierra Madre	Dr. R. H. Mackerras
Sanger	Dr. Thos. F. Madden	South Pasadena	Dr. C. F. Metcalf
Selma	Dr. Fred N. Williams	Venice	Dr. W. M. Kendall
Glenn County—		Vernon	Dr. L. J. Williams
Dr. Etta S. Lund	Willows	Watts	Dr. E. J. Riche
Orland	Dr. S. Iglick	Whittier	Dr. W. H. Stokes
Willows	Dr. W. H. Walker	Madera County—	
Humboldt County—		Dr. L. St. John Hely	Madera
Dr. Joseph Walsh	Eureka	Madera	Dr. L. St. John Hely
Arcata	Dr. G. W. McKinnon	Marin County—	
Blue Lake	Dr. Earl W. Hill	Dr. J. H. Kuser	Novato
Eureka	Dr. L. A. Wing	Belvedere	Dr. Florence Scott
Ferndale	Dr. A. P. Griffin	Corte Madera	
Fortuna	Dr. Orville Rockwell	Larkspur	Dr. L. Newman
Imperial County—		Mill Valley	James V. Chase
Dr. R. K. McGuffin	Imperial	Ross	Dr. Thos. U. Smith
Brawley	Dr. Eugene Le Baron	San Anselmo	Dr. O. W. Jones
Calexico	Dr. P. N. Sims	San Rafael	Dr. W. F. Jones
El Centro	Dr. F. A. Burger	Sausalito	Dr. Allen H. Vance
Holtville	C. A. Johnston	Mariposa County—	
Imperial	Dr. R. K. McGuffin	Dr. F. L. Wright	Mariposa

**LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.**

Mendocino County—	San Diego County—
Dr. S. L. Rea.....Ukiah	Dr. A. M. Lesem.....San Diego
Fort Bragg.....Dr. L. C. Gregory	Chula Vista.....Dr. G. E. Fuller
Point Arena.....Conrad Nicks	Coronado.....Dr. Raffael Lorini
Potter Valley.....W. T. Eddie	East San Diego.....Dr. C. R. Carpenter
Ukiah.....Dr. Lew K. Van Allen	El Cajon.....Dr. Chas. R. Knox
Willits.....Dr. F. C. Gunn	Escondido.....Dr. B. L. Crise
Merced County—	La Mesa.....Dr. L. W. Zochert
Dr. J. L. Mudd.....Merced	National City.....Dr. C. S. Owen
Custine.....Dr. C. E. Stagner	Oceanside.....Dr. R. S. Reid
Los Banos.....Dr. R. Jadarola	San Diego.....Dr. E. P. Chartres-Martin
Merced.....Dr. H. Kylberg	San Francisco (city and county)—
Modoc County—	Dr. W. C. Hassler.....San Francisco
Dr. John Stile.....Alturas	San Joaquin County—
Alturas.....Dr. John Stile	Dr. John T. Davison.....Stockton
Mono County—	Lodi.....Dr. S. W. Hopkins
Dr. C. W. Wood.....Bridgeport	Stockton.....Dr. Linwood Dozier
Monterey County—	Tracy.....Dr. J. G. Murrell
Dr. J. A. Beck.....Salinas	San Luis Obispo County—
Carmel-by-the-Sea.....J. F. Beardsley	Dr. C. J. McGovern.....San Luis Obispo
King City.....Dr. D. Brumwell	Arroyo Grande.....Dr. H. A. Gallup
Monterey.....C. A. Kiernan	Paso Robles.....W. W. Hughes
Pacific Grove.....James P. Evans	San Luis Obispo.....W. F. Cook
Salinas.....W. E. Hallock	San Mateo County—
Napa County—	Dr. F. Holmes Smith.....San Bruno
Dr. O. T. Schulze.....Napa	Burlingame.....Dr. Jane H. Parkhurst
Calistoga.....L. Randall	Daly City.....Dr. A. H. Rankin
Napa.....Harry Von Arx	Hillsborough.....C. M. Hirshey
St. Helena.....J. G. Johnson	Redwood City.....Dr. J. L. Ross
Nevada County—	San Bruno.....Dr. F. Holmes Smith
Dr. Carl P. Jones.....Grass Valley	San Mateo.....W. C. McLean
Grass Valley.....Dr. J. E. Yates	So. San Francisco.....Dr. J. C. McGovern
Nevada City.....Geo. H. Calanan	Santa Barbara County—
Orange County—	Dr. G. S. Lovern.....Santa Barbara
Dr. A. H. Domann.....Santa Ana	Lompoc.....Dr. C. B. Constable
Anaheim.....Dr. J. W. Truxaw	Santa Barbara.....Dr. C. S. Stevens
Brea.....Dr. W. W. Davis	Santa Maria.....Dr. O. P. Paulding
Fullerton.....Dr. J. H. Lang	Santa Cruz County—
Huntington Beach.....Dr. G. A. Shank	Dr. Wm. H. Keck.....Santa Cruz
Newport Beach.....J. A. Porter	Santa Cruz.....Dr. A. N. Nittler
Orange.....Dr. F. L. Chapline	Watsonville.....Dr. F. H. Koepke
Santa Ana.....Dr. J. I. Clark	Santa Clara County—
Seal Beach.....Dr. J. Park Dougall	Dr. Wm. Simpson.....San Jose
Stanton.....J. H. Swan	Alviso.....Dr. J. I. Beattie
Placer County—	Gilroy.....Dr. J. W. Thayer
Dr. John Manson.....Lincoln	Los Gatos.....Dr. R. S. Anthony
Auburn.....Dr. A. N. Couture	Mayfield.....Joseph Ponce
Colfax.....Dr. R. A. Peers	Morgan Hill.....Dr. W. D. Miner
Lincoln.....F. R. Elder	Mountain View.....Dr. A. H. MacFarlane
Rocklin.....Wm. H. Keeley	Palo Alto.....Louis Olson
Roseville.....G. W. Lohse	San Jose.....Dr. D. A. Beattie
Plumas County—	Santa Clara.....Dr. G. W. Fowler
Dr. B. J. Lasswell.....Quincy	Sunnyvale.....Mrs. Norman Schofield
Riverside County—	Shasta County—
Dr. James G. Baird.....Riverside	Dr. S. T. White.....Redding
Banning.....Dr. L. M. Ryan	Kennett.....Dr. J. P. Sandholt
Beaumont.....Dr. F. D. West	Redding.....E. A. Rolison
Blythe.....Dr. W. H. Chapman	Sierra County—
Corona.....Dr. W. S. Davis	Dr. O. A. Eckhardt.....Downieville
Elsinore.....Dr. G. E. Shank	Loyalton.....B. M. Wheeler
Hemet.....Dr. H. O. Miller	Siskiyou County—
Perris.....Dr. J. W. Reese	Dr. W. F. Shaw.....Yreka
Riverside.....Dr. G. W. Girdlestone	Dorris.....Otha A. Wilkins
San Jacinto.....Charles Y. Adams	Dunsmuir.....Herman Woodward
Sacramento County—	Etna.....Dr. W. H. Haines
Dr. J. H. Leimbach.....Isleton	Fort Jones.....S. R. Taylor
Sacramento.....Dr. W. J. Hanna	Montague.....Hugh W. French
San Benito County—	Sisson.....Dr. Paul Wright
Dr. J. M. O'Donnell.....Hollister	Yreka.....Dr. W. F. Shaw
Hollister.....Dr. J. M. O'Donnell	Solano County—
San Juan.....Joseph De Lucchi	Dr. W. C. Jenney.....Vacaville
San Bernardino County—	Benicia.....Dr. P. B. Fry
Dr. Edward Brigham.....S. Bernardino	Dixon.....H. G. Grove
Chino.....Dr. Elgar Reed	Fairfield.....F. L. Morrill
Colton.....Dr. J. A. Champion	Rio Vista.....
Needles.....Dr. A. S. Parker	Suisun.....Dr. A. G. Bailey
Ontario.....Dr. Calvert L. Emmons	Vacaville.....W. F. Hughes
Redlands.....Dr. Wm. A. Taltavall	Vallejo.....Dr. E. A. Peterson
Rialto.....Dr. L. P. Barbour	
San Bernardino.....Dr. F. M. Gardner	
Upland.....E. R. Bowman	

**LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.**

Sonoma County—	Tulare County—	
Dr. F. O. Pryor-----	Santa Rosa	Dr. A. W. Preston-----Visalia
Cloverdale-----	E. E. Gibbons	Dinuba-----Dr. A. N. Loyer
Healdsburg-----	Dr. J. W. Seawell	Exeter-----Dr. J. F. Duncan
Petaluma-----	Dr. R. B. Duncan	Lindsay-----Dr. C. W. Locke
Santa Rosa-----	Dr. Jackson Temple	Porterville-----Dr. H. A. Todd
Sebastopol-----	Dr. W. J. Kerr	Tulare-----Dr. J. B. Rosson
Sonoma-----	J. H. Albertson	Visalia-----Dr. A. W. Preston
Stanislaus County—		Tuolumne County—
Dr. J. L. Hennemuth-----Modesto		Dr. Wm. L. Hood-----Sonora
Modesto-----	Dr. J. W. Ransome	Sonora-----Dr. G. C. Wrigley
Newman-----	Dr. H. V. Armistead	Ventura County—
Oakdale-----	Dr. F. W. McKibbon	Dr. A. A. Maulhardt-----Oxnard
Turlock-----	Dr. W. L. Wilson	Fillmore-----Dr. Will R. Manning
Sutter County—		Oxnard-----Dr. G. A. Broughton
Dr. I. W. Higgins-----Live Oak		Ventura-----J. H. Hardey
Yuba City-----	Dr. J. H. Barr	Santa Paula-----Dr. G. C. Nichois
Tehama County—		Yolo County—
Dr. E. E. Thompson-----Red Bluff		Dr. W. J. Blevins-----Woodland
Corning-----	Dr. O. F. Rudolph	Davis-----Dr. W. E. Bates
Red Bluff-----	Dr. Walter Gavey	Winters-----Dr. R. E. Peck
Tehama-----	Dr. Mary B. Poket	Woodland-----A. Silberstein
Trinity County—		Yuba County—
Dr. F. H. Bly-----Weaverville		Dr. J. H. Barr-----Marysville
		Marysville-----Dr. A. L. Miller
		Wheatland-----W. H. Niemeyer

## List of Diseases Reportable by Law

Anthrax	Ophthalmia Neonatorum
Beri-beri	Paratyphoid Fever
Cerebrospinal Meningitis (Epidemic)	Pellagra
Chickenpox	Plague
Cholera, Asiatic	Pneumonia (Lobar)
Dengue	Poliomyelitis
Diphtheria	Rabies
Dysentery	Rocky Mountain Spotted (or Tick) Fever
Erysipelas	Scarlet Fever
German Measles	Smallpox
Glanders	*Syphilis
*Gonococcus Infection	Tetanus
Hookworm	Trachoma
Leprosy	Tuberculosis
Malaria	Typhoid Fever
Measles	Typhus Fever
Mumps	Whooping-cough
	Yellow Fever

\*Reported by office number. Name and address not required.

## Quarantinable Diseases

Cerebrospinal Meningitis (Epidemic)	Poliomyelitis
Cholera, Asiatic	Scarlet Fever
Diphtheria	Smallpox
Leprosy	Typhus Fever
Plague	Yellow Fever

Section 16, Public Health Act. All physicians, nurses, clergymen, attendants, owners, proprietors, managers, employees, and persons living in or visiting any sick person in any hotel, lodging house, house, building, office, structure, or other place where any person shall be ill of any infectious, contagious, or communicable disease, shall promptly report such fact to the county, city and county, city, or other local health board or health officer, together with the name of the person, if known, and place where such person is confined, and nature of the disease, if known.

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THE WHITE HOUSE,  
WASHINGTON.

March 29, 1918.

*Secretary Wilson,  
Department of Labor,*

MY DEAR MR. SECRETARY:

Next to the duty of doing everything possible for the soldiers at the front, there could be, it seems to me, no more patriotic duty than that of protecting the children, who constitute one-third of our population.

The success of the efforts made in England in behalf of the children is evidenced by the fact that the infant death rate in England for the second year of the war was the lowest in her history. Attention is now being given to education and labor conditions for children by the legislatures of both France and England, showing that the conviction among the Allies is that the protection of childhood is essential to winning the war.

I am very glad that the same processes are being set afoot in this country, and I heartily approve the plan of the Children's Bureau and the Woman's Committee of the Council of National Defense for making the second year of the war one of united activity on behalf of children, and in that sense a children's year.

I trust that the year will not only see the goal reached of saving one hundred thousand lives of infants and young children, but that the work may so successfully develop as to set up certain irreducible minimum standards for the health, education and work of the American child.

Cordially and sincerely yours,  
(Signed) WOODROW WILSON.

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PROF. WM. P. LUCAS,  
MED. DEPT. CAL. UNIVERSITY,  
SAN FRANCISCO, CAL.